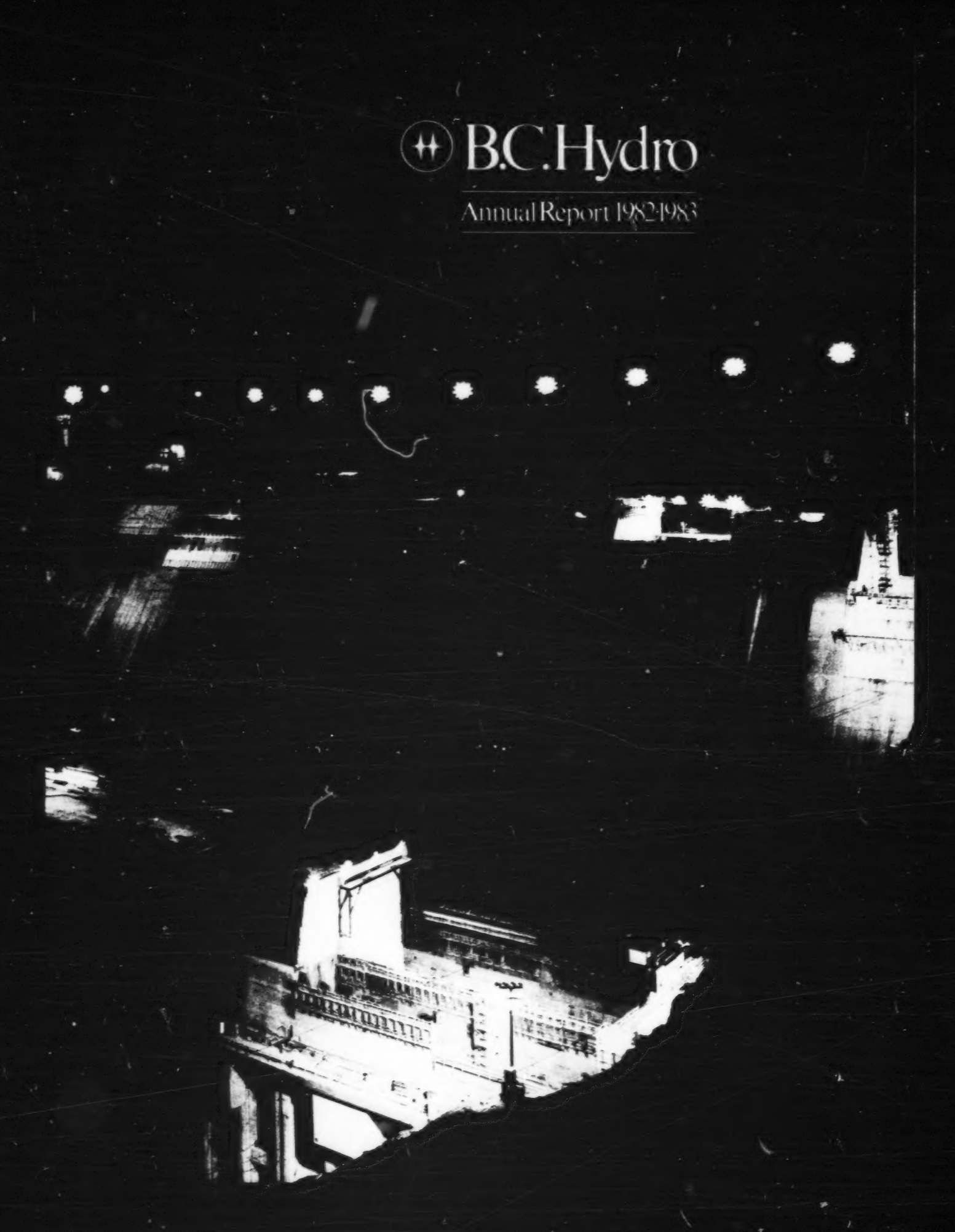


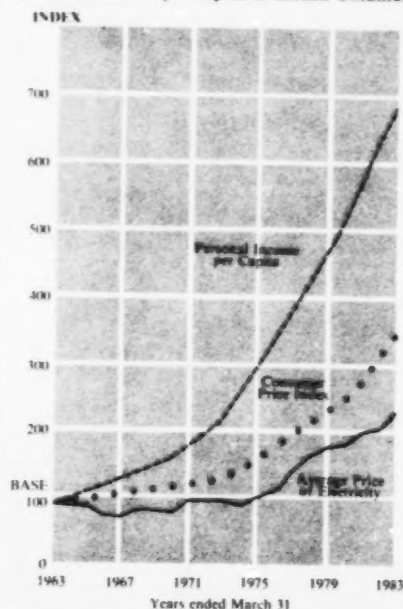


B.C. Hydro

Annual Report 1982-1983



B.C. Hydro's average selling price of electricity for residential use compared with consumer price index (1981 = 100) and personal income per capita in British Columbia



FINANCIAL INFORMATION (in millions)

Revenues	\$ 1,528
Net loss after provision for the rate stabilization account and extraordinary item	\$ 19
Expenditures on fixed assets*	\$ 971
Gross investment in fixed assets	\$ 9,694
Bonds and debentures**	\$ 6,832

*Net of contributions in aid of construction
**Excludes current maturities

MAJOR PROJECT UNDER CONSTRUCTION

REVELSTOKE

Four units (460 750 kW each)	
In service date	1984
Ultimate generation	2 764 500 kW

FACTS OF INTEREST

- B.C. Hydro is the third-largest electric utility and the sixth-largest corporation in Canada as at December 31, 1982 based on assets.
- 95% of total electricity requirements was hydroelectrically generated during the year.
- At year-end approximately 93% of Hydro's net fixed assets was dedicated to electric service.
- A net total of 443 circuit km of transmission lines and an estimated 1117 km of distribution lines were added to the electric system this year.
- B.C. Hydro is the largest distributor of natural gas in British Columbia.
- In the Greater Vancouver and Fraser Valley service areas, 10 550 new natural gas customers were connected during the year. Of these, 5644 converted from oil.
- During the year more than 300 000 people visited recreation areas at Hydro reservoirs.
- Hydro has 8212 regular and 455 temporary employees, a reduction of 11% in total employees during the year.

Further information is available from Information Place, Head Office.

ISBN 8226-9113



Pocket Facts

For the year ended March 31, 1983

BUSINESS OF B.C. HYDRO

British Columbia Hydro and Power Authority is a provincial Crown corporation. Its Board of Directors, appointed by the provincial government, has overall responsibility for management of the corporation.

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Head Office: 970 Burrard Street, Vancouver, British Columbia, Canada, V6Z 1Y3

ELECTRIC SERVICE

Generating nameplate capacity at year-end
(rated kW in thousands)*

Hydro	7 491
Thermal	1 341
Total	8 832
Peak one-hour demand, integrated system (kW in thousands)	5 508
Customers at year-end (thousands)	1 102
Electricity sold (kW-h in millions)	
Residential	8 790
General	9 736
Transmission rate	9 040
**Other	1 074
Export surplus	3 623
Total	32 263
Residential service	
Average annual kW-h use per customer	9 214
Average revenue per kW-h (cents)	4.7

*Excludes electricity available from other systems. Rated capacity has been exceeded on occasion.

**Includes contracted export sales. Also includes Irrigation and Street Lighting categories which were formerly classified as General.

GAS SERVICE

One-day capacity at year-end (terajoules)

Mainland — firm pipeline contracts	413
Greater Victoria — plant	158
Customers at year-end (thousands)	6
Kilometres of distribution main	342
Sales to public (terajoules)	8 057
Average revenue per gigajoule (dollars)	85 969
	3.85

RAIL FREIGHT SERVICE

Freight carried (tonnes in thousands)	1 784
Kilometres of track	308
Number of diesel locomotives	20

GENERATING NAMEPLATE CAPACITY

HYDRO

	Kilowatts (kW)
Aberfeldie	5 000
Alouette	8 000
Ash River	25 200
Bridge River	428 000
Buntzen	76 700
Cheakamuk	140 000
*Clayton Falls	702
Clowhom	30 000
Elko	9 400
Falls River	9 400
John Hart	120 000
Jordan River	150 000
Kootenay Canal	529 200
Ladore	54 000
La Joie	22 000
Mica	1 736 000
Peace Canyon	700 000
Puntledge	27 000
Ruskin	105 400
Seton	42 000
Seven Mile	607 500
Shrum, G.M.	2 416 000
**Shawatians	1 320
Shuswap	5 200
Spillimacheen	4 000
Steve Falls	52 500
Strathcona	67 500
Wahleach	60 000
Walter Hardman	8 000
Whatshan	50 000
Total	7 490 622

GAS TURBINE

Georgia	71 500
Krogh	99 700
Port Mann	100 000
Prince Rupert	46 000
Total	321 200

GENERATING NAMEPLATE CAPACITY (cont'd.)

CONVENTIONAL THERMAL

Burrard	912 500
---------	---------

STATIONARY AND MOBILE DIESELS

*Anahim Lake	1 600
*Atlin	1 750
*Bamfield	2 300
*Bella Bella	3 000
*Bella Coola	3 600
*Boston Bar	1 995
*Dease Lake	1 350
*Eddontonajon	1 150
*Fort Nelson	25 800
*Golden	8 000
*Lytton	2 730
*Masset	9 424
*Mt. Brail	7 300
*Revelstoke	7 500
*Sandspit	7 400
*Stewart	7 247
*Tatla Lake	1 300
*Telegraph Creek	1 000
*Zeballos	1 600

96 046

Other units, various sizes	11 500
----------------------------	--------

TOTAL CAPACITY	8 831 868
-----------------------	------------------

*Non-integrated

**Presently out of service, pending further review.

TRANSMISSION LINES IN SERVICE

	Circuit Kilometres
500 kV lines	4 497
360, 287 and 230 kV lines	4 036
138 kV lines	4 164
60 kV lines	3 846



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*The Financial Review, included in B.C. Hydro's Annual Report this year for the first time, contains additional detail about the results of operations.

Cover

Revelstoke hydroelectric project on the Columbia River is currently nearing completion.

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for the years ended March 31

	1983	1982	1981
(in thousands)			
FINANCIAL			
Revenues	\$1,528,451	\$1,472,597	\$1,096,909
Income (loss)			
Electric	\$ 56,979	\$ 101,679	\$ 105,088
Gas	2,980	10,320	791
Rail	(3,113)	3,109	3,019
Sundry	1,394	4,833	4,141
Income before extraordinary item	58,240	119,941	113,039
Extraordinary item	77,000	—	—
Net income (loss)	\$ (18,760)	\$ 119,941	\$ 113,039
Fixed asset expenditures	\$1,037,398	\$1,053,342	\$ 739,902
OPERATING			
Electricity sold (millions of kW·h)			
Domestic and other	28 640	28 964	28 222
Export surplus	3 623	6 315	1 816
Gas sold (terajoules)	85 969	96 247	85 621
Freight carried (thousands of tonnes)	1 784	2 383	2 458

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The Honourable Brian R.D. Smith, Minister of Energy, Mines and Petroleum Resources, was appointed to Hydro's Board of Directors effective August 20, 1982. He succeeded the Honourable Robert H. McClelland, who was appointed Minister of Labour.

The Audit Committee assists the Board in its responsibilities with respect to corporate affairs and financial statements. Directors serving on the Audit Committee during the year were C.W. Brazier, Chairman, H.R. Horne, A.C. McGougan and S.D. Sutherland.

The Budget Committee examines the planning process and the long-range forecasts that form the basis of the annual corporate budget, and reviews actual performance against

budgets and forecasts. This Committee consisted of C.A. Lasser, Chairman, C.E. Osterloh and J.S. Waldie,

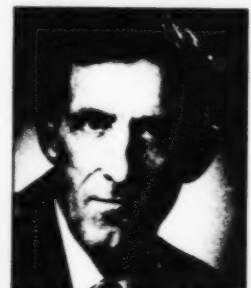
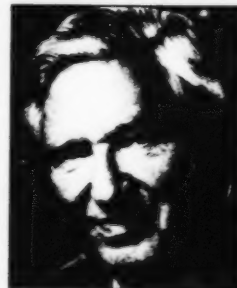
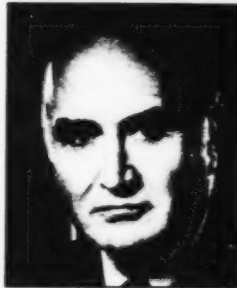
The Energy Committee reviews the gas and electric system plans in terms of safety, reliability and economics, including examination of choices among alternative projects and the justification and timing of projects included in the plans. L.M. Wedepohl served as Chairman, with J.L. DeLair, H.A. Moffat and J.G. Rose the other members.

The Executive Compensation Committee has an advisory role in the setting of managerial salaries. The Committee consisted of J.S. Waldie, Chairman, C.W. Brazier, A.C. McGougan and S.D. Sutherland.

Robert W. Bonner, Q.C.
Chairman and Chief Executive Officer
Vancouver (left)

Charles W. Brazier, Q.C.
Corporate lawyer
Vancouver (centre)

Jack L. DeLair
Forest products company owner
Hope (right)



Hugh R. Horne
Chartered accountant
Vancouver (left)

Charles A. Lasser
Rancher and mayor of Chetwynd (centre)

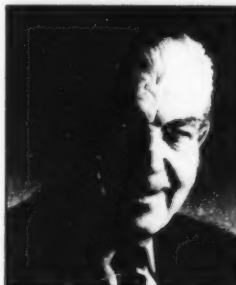
Hon. Patrick L. McGee
Minister of Universities,
Science and Communications
Vancouver (right)



Archie C. McGougan
Retired forest products
company executive
Vancouver (left)

Harold A. Moffat
Merchant and former mayor
of Prince George (centre)

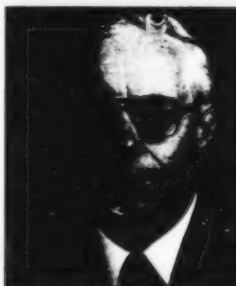
J. Norman Olsen
President and Chief Operating Officer
Vancouver (right)



Charles E. Osterloh
Retired businessman and
civic board member
Invermere (left)

J. Guy Rose
Cattle rancher
Quilchena (centre)

Hon. Brian R.D. Smith, Q.C.
Minister of Energy, Mines and
Petroleum Resources
Victoria (right)



Sandra D. Sutherland
Corporate lawyer and
credit union director
Vancouver (left)

John S. Waldie
Retired businessman
Victoria (centre)

L. Martin Wedepohl
Dean of Applied Science
University of British Columbia
Vancouver (right)



The centre that controls the Lower Mainland's generating plants, substations and transmission and distribution systems has been relocated from head office in Vancouver to this new facility in Burnaby.

Depressed economic conditions and a milder than normal winter had a severe effect on Hydro's financial results during the past year. Sales of both electricity and gas decreased from the previous year while the rail freight service operated at a loss for the first time in its history. Hydro's operating income for the year was \$77 million, before provision for the rate stabilization account and extraordinary item. Revenues included \$97 million from export sales of surplus electricity, a significant amount, but down substantially from \$233 million in the previous year because of greater competition from other utilities for the available markets, limitations to transmission capabilities owned and operated by utilities within the United States and much lower prices.

Operating expenses during the

year totalled \$1,451 million, up \$189 million or 15%. The increase was primarily attributable to higher non-controllable costs, particularly the cost of gas purchases, water rentals and interest cost, which were up \$140 million over the previous year. Fixed asset expenditures amounted to \$1,037 million.

Lower sales volumes and load forecasts, attributable to economic conditions, resulted in reduction, deferral or cancellation of a number of programs and activities. In addition, Hydro's planned long-range capital expenditure program was significantly reduced, reflecting a lower electricity demand forecast.

Plans for future projects have been scaled down significantly. For example, the Hat Creek coal-fired project has been postponed indefinitely.



In establishing regulation for Hydro, the provincial government issued Special Direction No. 1 to the B.C. Utilities Commission. The Special Direction states that Hydro should achieve a financial position enabling it to borrow funds on the most economic terms available. The minimum standard for interest coverage set out in the Special Direction is that Hydro achieve a ratio of 1.3 to 1 by the 1983-84 fiscal year. In the light of present circumstances, including the Rate Increase Restraint Act which limits Hydro to a 6% rate increase in the year ending September 30, 1983, that objective does not now appear achievable.

While economic operation is a basic concern, it must be acknowledged that the greater part of Hydro's total expense cannot be

influenced in the short term by Hydro management once the related plant is in service. Nearly 80% of expenses are fixed and essentially beyond Hydro's control, in the short term. These include interest (33% of total expenses), grants, school taxes and water rentals (18%), natural gas purchases (16%) and depreciation (12%). Moreover, supplies are subject to tendering and wages are subject to collective bargaining with settlements frequently in the hands of third-party arbitrators. Hydro was not granted the total rate increase sought for April 1, 1982, which would have provided an additional \$70 million in revenues over the fiscal year. The actual electric revenue was down \$13 million from forecast, primarily in the industrial sector because of the depressed state of the economy. These factors cannot be entirely offset by reductions in expenses.

In March 1983 the Commission released a decision confirming as permanent the interim increases in electric and gas rates approved previously. It also awarded Hydro increases in electric and mainland gas rates to take effect April 1, 1983. Referring to the Special Direction and how it requires the Commission to regulate Hydro's rates, the Commission concluded that Hydro's rates must be just and reasonable in all of the circumstances and that it will review Hydro for prudence of investment and efficiency of operation. As to revenues, while recognizing that adequate interest coverage must be achieved and maintained over time in order to ensure borrowing capacity and provide security to lenders, the Commission nevertheless felt that an interest coverage objective of 1.3 to 1 was a target around which achieved coverages could be expected to fluctuate to some degree.

With slower economic growth than previously anticipated and lower increases in electric and gas rates than were sought, Hydro's management must further intensify its efforts to reduce costs to maintain the financial strength of the corporation.

Hydro's job is to meet public demand for energy on time. In forecasting requirements for energy in the short term, Hydro relies on

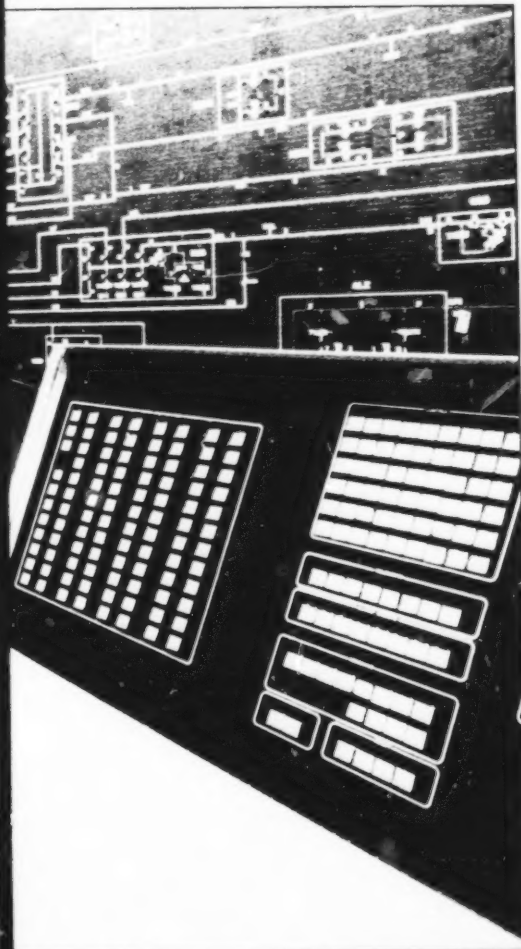
information provided by major customers in such energy-intensive industries as pulp, paper and wood manufacturing, metals mining and smelting and chemical production. Since these customers are understandably uncertain about their own future because of the unusual economic conditions of recent years, it has been difficult to obtain reliable information. While they could not be expected to predict cutbacks in production or the deferral of expansion plans to the extent now being experienced, it is a fact that unexpected changes in customers' plans and operations have been the major cause of significant variations in forecast levels of demand for electricity and gas. Hydro is meeting the challenge of this period by updating forecasts more frequently than in former years and by continuing to refine load forecasting methodology.

This has been a difficult year for our employees, many of whom have had to face the personal anguish of losing their jobs. The employees who remain also have had to live and work with great uncertainty, brought about by rapidly changing economic conditions. The Directors wish to express their regrets to those employees who have had to leave the corporation as a result of staff reductions, and wish them well in the future. The Directors wish to record their appreciation to all employees for their dedicated service to the public during the past year. In particular, the Directors recognize the strong response by managers and staff to the increasing need for greater efficiency, higher productivity and savings. These efforts will help the corporation and our customers to weather current difficulties until better days arrive.

On behalf of the Board



Robert W. Bonner
Chairman



Over the past year, British Columbians have suffered a recession of the longest duration and with the largest decline in economic activity since the great depression of the 1930s. The severity of these economic conditions was not foreseen by economists. Because the province's economy is so heavily dependent on export sales, any significant improvement in the economy will only follow the gradual economic recovery of British Columbia's customers in export markets. The current high level of unemployment and the risks of protectionism still contribute to economic uncertainty. On the positive side, however, the alarming rise in interest rates has eased considerably as inflation rates have fallen, and the recent reduction in world oil prices should help to stimulate economic recovery in the short term.

Hydro's economic forecasts indicate that 1983 will mark the turning point towards recovery as the growth of British Columbia's export markets is restored and customer confidence improves, resulting in increased spending on goods and services. By 1984 the recovery should be stronger, with a return to a higher rate of growth, but below the province's economic potential.

Estimated energy requirements were considerably lower than those in the previous year's forecast for the same 11-year period, a change which was partially anticipated in a May 1982 interim load forecast.

Hydro is continuing to adapt to a changing and uncertain utility environment. For some time it has been reducing emphasis on project construction and seeking new ways to bolster revenue and reduce costs.

For the convenience of customers Hydro offers an equal monthly payment plan and a pre-authorized payment plan under which equal-payment customers may authorize Hydro to draw against their bank accounts. These plans continue to gain favour with customers, with approximately 250 000 making equal payments and about 50 000 of these participating in the pre-authorized payment plan.

Hydro continued to assist customers in saving energy and money through advice and assistance in energy management. By March 31, 1983, approximately 24 250 customers had taken advantage of Hydro's low-cost financing program to assist homeowners installing ceiling and wall insulation, multiple glazing or storm windows. About \$20.3 million worth of insulation materials had been installed of which \$10.8 million was financed by Hydro. A special package of energy conservation material was sent to each of the approximately 4000 customers not connected to the integrated system to help them reduce their use of diesel-generated electricity. Various other advisory programs were provided. The practice of charging customers for some of the special advisory services was introduced and has been successful.

Computer facilities were expanded and computer technology used in many ways to support Hydro employees in improving customer service and reducing costs. With the workload on the central site computer increasing, a supplementary processor was installed and new business and technical systems introduced to support applications ranging from improved service to mapping and digital terrain models. Through computer terminals, field personnel can feed information about their requirements for materials and supplies to a central group which then can ensure that stock levels are adequate to meet future demands without unnecessary purchases, storage, shipping or handling costs.

Review of Operations

The first phase of the first public hearing concerning B.C. Hydro rates closed on December 2, 1982. The B.C. Utilities Commission confirmed as permanent the interim increases previously granted and awarded a 6% increase in electric rates and 3.2% in mainland gas rates, effective April 1, 1983.

The Commission's public hearing of Hydro's application for an energy project certificate for the proposed Site C hydroelectric project concluded on November 2, 1982.

Following a one-week hearing in July 1981, Hydro received authorization from the Commission on September 27, 1982, to build a 500 kV transmission line from Cranbrook to the Alberta border. Construction is under way and the in-service date is scheduled for

September 1985. This interconnection will offer emergency back-up and energy exchange benefits to both Alberta and B.C.

After receiving Commission approval on July 30, 1981, for redevelopment of the Falls River hydroelectric plant near Prince Rupert, Hydro re-examined costs of the project and subsequently applied on May 4, 1982, to defer redevelopment for between two and five years. Hydro received approval on February 15, 1983, to complete a minimum of maintenance during 1983 as an interim measure.

Hydro intends to apply to build and operate both an underwater natural gas transmission pipeline from the Lower Mainland to Vancouver Island and the associated distribution facilities on the Island.

Customer service clerk Mrs. Lee Lawrence uses a video display terminal to obtain instant account information for Vancouver customer Mrs. Charlotte Stevens.



Overall revenues from electric service increased 4% from the previous year to \$1,172 million, despite a 1% decrease in sales of firm electricity, which totalled 28 092 million kW·h. The increased revenues resulted chiefly from higher rates. Peak one-hour demand on the integrated system was 5 508 000 kW, about 7% lower than the record of 5 902 000 kW set January 6, 1982.

Sales to large industrial customers served on the transmission rate were 9040 million kW·h, 9% below budgeted expectations. This shortfall, caused primarily by the

large number of forest and mine industry closures during the year, represented \$25 million in lost revenue.

There was an increase of 25 528 to 1 102 442 in the number of electricity customers served during the year. Average annual consumption per residential customer was 9214 kW·h, compared with 9413 kW·h the year before.

Sales of surplus interruptible electricity to the United States, while substantial, were considerably reduced from 1981-82 levels because of much greater competition for the available markets from utilities in



BC Hydro

**Electric Transmission System
at March 31, 1983
with planned additions**

LEGEND

Hydroelectric Generating Stations

Diesel-Electric Generating Stations

Gas Turbine Electric Generating Stations

Substations

Interconnections

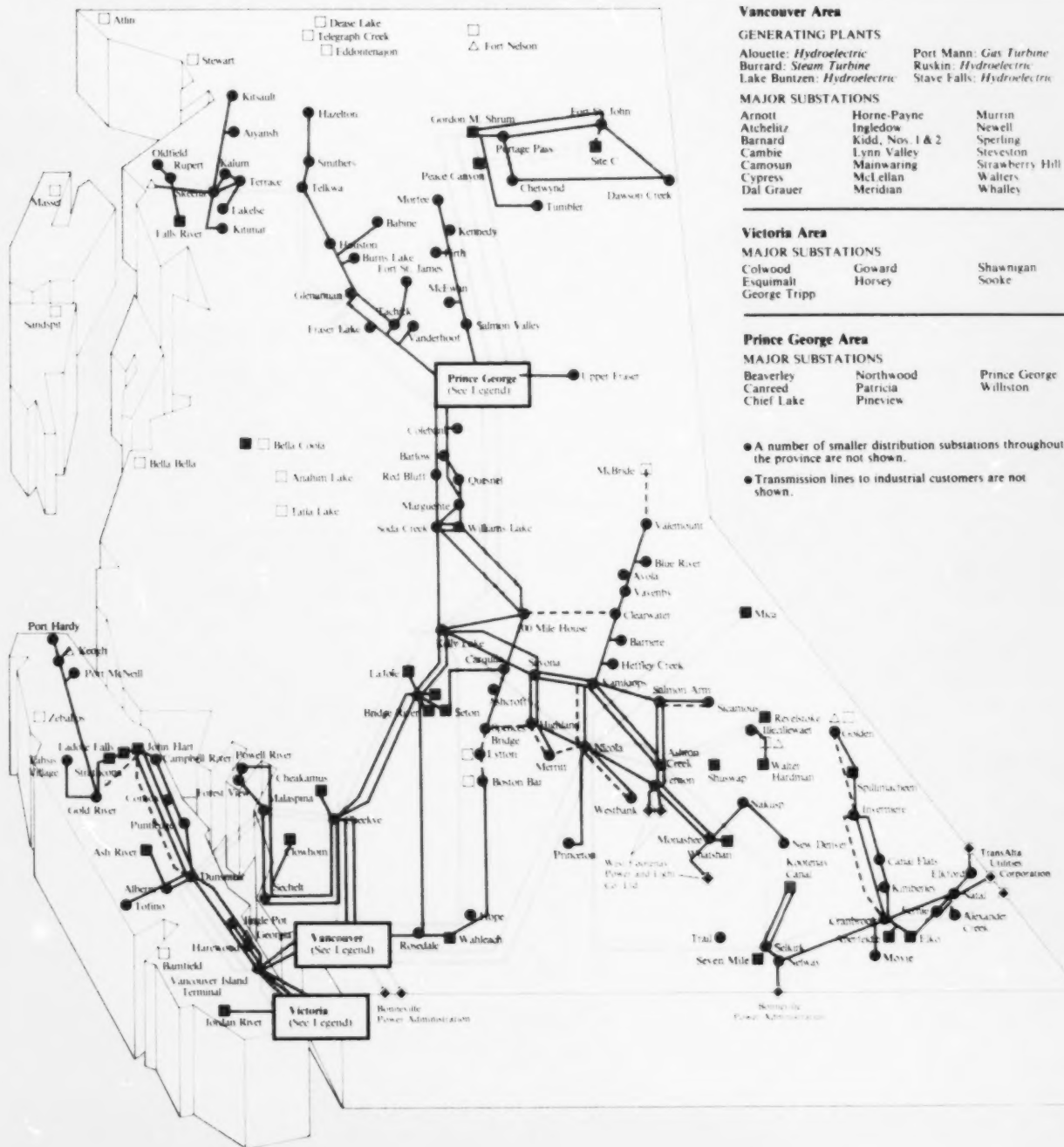


Transmission Lines 60 kV - 360 kV
(existing and under construction)

Transmission Lines 500 kV
(existing and under construction)

Transmission Lines 60 kV - 360 kV
(planned)

Transmission Lines 500 kV
(planned)



the northwestern U.S., lower demand and lower prevailing market prices. The U.S. utilities had more than sufficient surplus to satisfy the southwestern U.S. market for more than half the year, restricting Hydro's surplus sales to fall and early winter. Total export surplus sales, including sales to Alberta and sales to the U.S., were 3623 million kW-h, producing revenue of \$97 million. Increased efforts are being made to improve Hydro's exports of surplus power.

Runoff into Hydro reservoirs was generally above normal except for the Peace River drainage, southern coastal areas and Vancouver Island, where inflows were slightly below normal. Overall runoff was more than adequate to provide for electric needs in B.C. as well as sales to the U.S. As a result, generation from the gas-fired Burrard thermal station near Vancouver was negligible.

A total of 128 distribution extension projects along 268 km of lines was authorized under the Rural Electrification Assistance program to serve 338 customers, including five

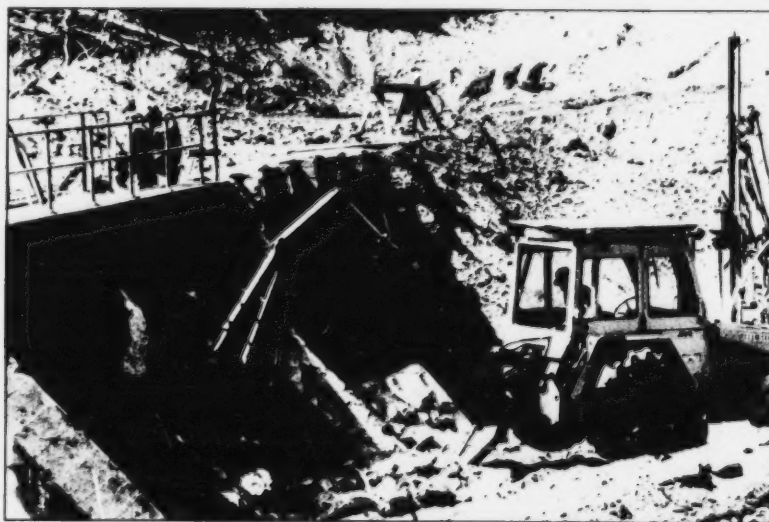
productive farms totalling 11 584 hectares. During the year the amount of funds Hydro provided for this program was increased by \$1.2 million to \$7 million.

B.C. Hydro research scientists, working along near-parallel paths with their counterparts at Ontario Hydro, have taken a major step towards the elimination of polychlorinated biphenyls (PCBs). In March 1983 the two utilities signed a co-operative agreement that calls for the sharing of information and patents to speed up the practical application of PCB destruction processes invented over the past two years.

B.C. Hydro is designing a mobile PCB destruction plant that can be taken to various field installations — thus eliminating the need to transport PCBs over long distances — while Ontario Hydro plans to complete a facility by the fall of 1983 for reclaiming oil contaminated by PCBs.

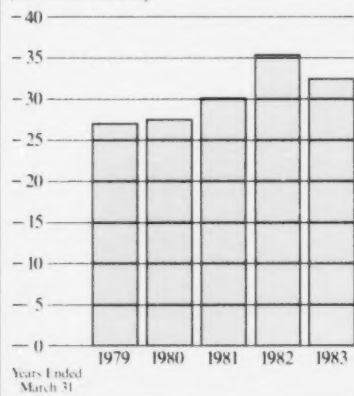
Firm sales of electricity by category of customer for the past three years and annual percentage changes were:

	Year ended March 31, 1983 kW-h in millions	% increase (decrease) from previous year	Year ended March 31, 1982 kW-h in millions	% increase (decrease) from previous year	Year ended March 31, 1981 kW-h in millions	% increase (decrease) from previous year
Residential	8 790	0.4	8 755	8.0	8 104	6.5
General	9 736	0.1	9 728	3.7	9 377	5.1
Transmission rate	9 040	(2.8)	9 305	(3.2)	9 612	4.2
Other	526	3.7	507	2.5	496	3.0
	28 092	(0.7)	28 295	2.6	27 589	5.1

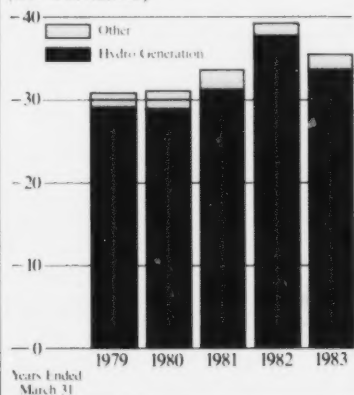


All dams in Hydro's system are inspected regularly, with particular emphasis on safety. Comox Lake Dam on Vancouver Island (right) was modified during the year.

Sales of Electricity
(kW·h in billions)



Sources of Electricity Supply
(kW·h in billions)



Total requirements for electricity and sources of supply during the past year were:

	kW·h in millions	% of total
Requirements		
Firm sales	28 092	79.3
Export — surplus	3 623	10.2
— other	548	1.6
Line loss and system use	3 168	8.9
	35 431	100.0
Sources of supply		
Hydroelectric generation		
Gordon M. Shrum	10 580	29.9
Mica	7 260	20.5
Kootenay Canal	3 275	9.2
Seven Mile	2 744	7.7
Peace Canyon	2 583	7.3
Other	7 127	20.1
Thermal generation		
Burrard	23	0.1
Other	145	0.4
Purchases and other transactions	1 694	4.8
	35 431	100.0

There were no major additions to Hydro's generating capacity during the year. The total nameplate generating capacity of Hydro's plants at the end of the year was as follows:

	Installed nameplate generating capacity (kW in thousands)
Hydroelectric plants	
Gordon M. Shrum	2416
Mica	1736
Peace Canyon	700
Seven Mile	608
Kootenay Canal	529
Bridge River	428
Other	1074
Total hydroelectric	7491
Thermal plants	
Burrard	912
Gas turbine (4 plants)	321
Diesel	108
Total thermal	1341
Total generating capacity	8832

Total revenues from gas service were \$332 million, up \$16 million or 5% over the previous year. As a result of an unusually mild winter, conservation and the generally poor economic conditions, natural gas sales volume decreased to 85 969 terajoules, down 11%. For the same reasons the one-day peak demand of 493 terajoules, which occurred on November 22, 1982, was 16% less than the record of 586 terajoules, set on January 5, 1982.

In the Greater Vancouver and Fraser Valley service areas, 10 550 new customers were added, bringing the total at March 31, 1983, to 337 815, an increase of 3%. Of these, 5644 formerly used oil. Hydro continued to administer, for Energy, Mines and Resources Canada, the Canada Oil Substitution Program for customers in Hydro's service area. This program provides grants of 50% of the cost of converting from oil to either natural gas or electricity up to a maximum of \$800 for each individual residential, commercial or industrial customer and up to \$5,500 for multi-residential buildings. By March 31, 1983, about 21 000 Hydro customers had received the grant. Of these, 90% converted to natural gas and the others to electricity or heat pumps.

In the Greater Victoria service area, the butane-air system was changed to propane-air to take advantage of lower prices effective June 1, 1982. The number of customers declined 2% to 4053. Sales, however, increased by 6% to 322 terajoules following approval in September 1981 by the B.C. Utilities Commission of a tariff making additional gas available to existing customers. An application for a tariff amendment to permit further expansion of the service is currently under review by the Commission.

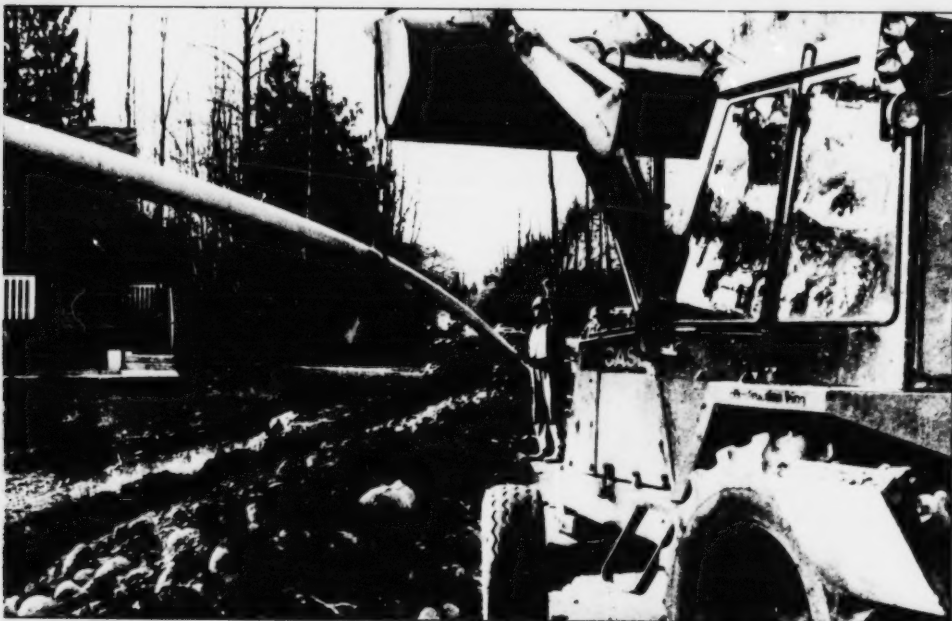
The federal government is contributing 73% of the capital cost of the installation of 22 km of gas distribution line into the previously unserved areas of Chilliwack Lake Road and Promontory Hill Road in the Fraser Valley. This extension will make natural gas service available to 400 households. The federal funds are provided under the Distribution System Expansion Program (DSEP), which is designed to reduce consumption of oil. Hydro plans to apply for additional DSEP funds in 1983-84.

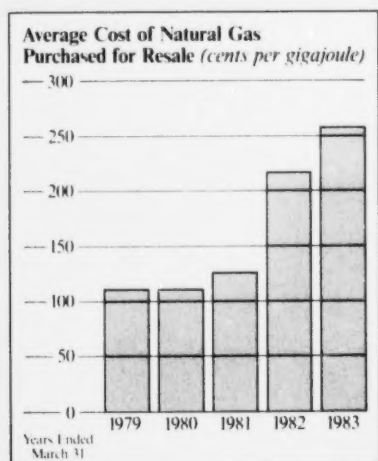
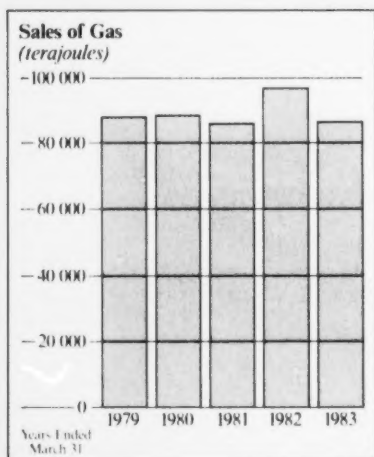
Hydro is continuing with its program of converting service vehicles to compressed natural gas (CNG) fuel and 42 vehicles were operating on CNG as of March 31, 1983.

To ensure a reliable supply of natural gas at the lowest long-term price to customers, Hydro made representations at the National Energy Board's gas export omnibus hearings and has intervened in an application by Hydro's sole supplier, Westcoast Transmission, to increase cost of service tolls.

In consideration of changes to codes governing liquefied natural gas (LNG) plants and recent advances in seismic technology, Hydro is modifying the Tilbury Island LNG storage plant. The modifications, which will improve the plant's safety and security, include a new impoundment dike surrounding the storage tanks.

Hydro is making natural gas service available to 400 households in the eastern Fraser Valley. The 22 km extension of gas distribution lines is funded largely by the Distribution System Expansion Program, a federal program to reduce oil consumption.





Arc welder Bob Boucher (left) works on steel pipe, assisted by Fraser Valley Gas utilityman Eric Jantzen.



In northwestern B.C. the economic and industrial outlook includes two possible developments which are important in Hydro's planning. First is the proposal recently approved by the provincial Cabinet to construct a \$4 billion LNG project north of Prince Rupert. It is expected that this project, if it proceeds, will have a demand of 135 000 kW. Second is Alcan's plan, the feasibility of which is currently being assessed, to increase generating capacity at its Kemano station, which could make power available for Hydro to purchase on a short-term basis.

The Ridley Island coal terminal at Prince Rupert and a companion grain terminal being installed to improve access for B.C. to the Pacific Rim have required the extension of new transmission lines, now completed.

The scale of debris disposal operations on Williston Lake reservoir was reduced during the past year to give industry the opportunity to use floating debris in the manufacture of chips. However, the reduction of debris disposal will prolong navigation problems. Hydro has made a commitment to the Comptroller of Water Rights that disposal will be substantially

completed by 1988-89 if industry does not take the debris.

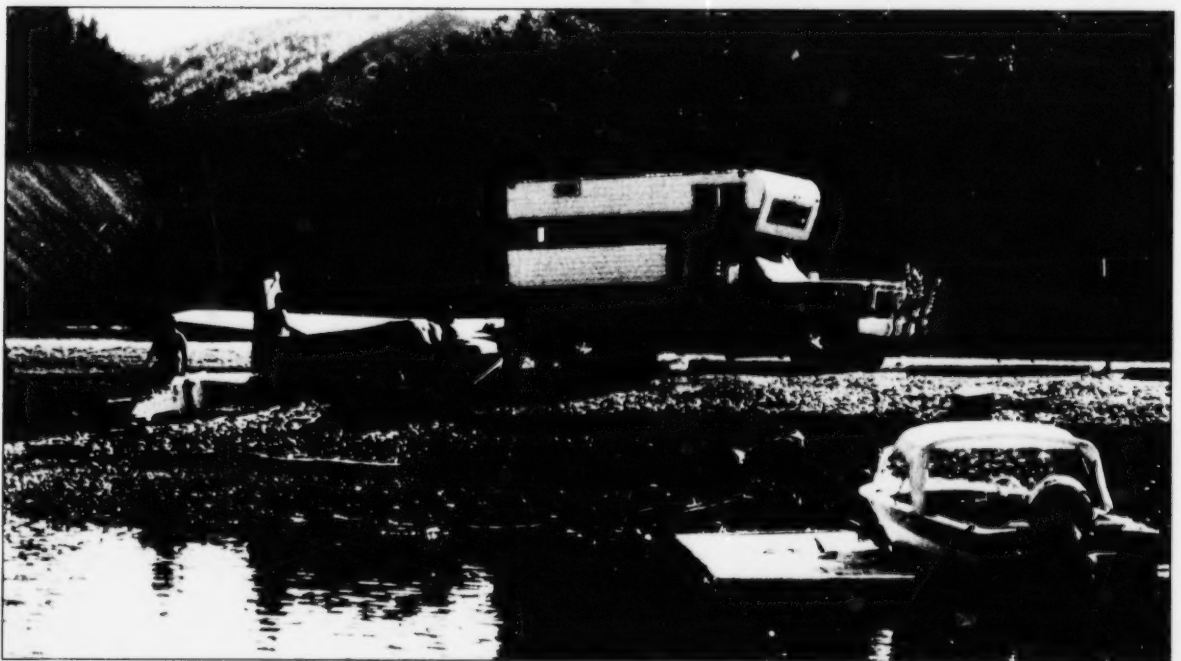
A new centre to serve Hydro customers was completed at Kamloops, consolidating a number of scattered headquarters in the area.

The control centre which operates the Lower Mainland's generating plants, substations and transmission and distribution systems was moved from Hydro's head office in Vancouver to a new facility in Burnaby.

As a result of the depressed economy, a mild winter and excellent customer co-operation in avoiding peak periods, the Vancouver Island peak electric load remained below critical supply capacity limits.

A severe storm struck central and southern Vancouver Island in December 1982. For several days high winds hampered efforts to repair massive damage to the electric distribution system. Large numbers of customers from Nanaimo to Victoria and the Gulf Islands experienced power interruptions

Improvements to recreation areas at Hydro reservoirs continued during the year. New facilities at Peace Canyon reservoir (below) provide for camping, picnicking and boating.



ranging from several hours to five days in some isolated areas. Despite the extraordinary circumstances staff at all levels coped well with the situation and the public was appreciative.

A 25 kV submarine cable to Ahousat in the Vancouver Island region and a 25 kV distribution feeder line to McBride in the Central Interior were completed, joining these two communities to the integrated electric system. Substantial savings in diesel fuel costs have resulted.

Electricity rates which are below costs in districts where electricity is still supplied from diesel generation are resulting in accelerated conversion to electric space heating, increasing Hydro's operating losses in these areas.

Hydro is examining future opportunities to purchase electricity from customer-owned projects such as the proposal being considered by the Capital Regional District to produce power and central heating from refuse. However, Hydro does not intend to enter into any further contracts while it has a firm surplus energy supply.

During the year more than 300 000 people visited recreation areas at Hydro reservoirs, while

improvements were made to existing facilities to provide additional safety features and opportunities for greater public use.

Detailed study continued of a pipeline system to extend natural gas service to Vancouver Island residents and industry.

The Tilbury Island LNG storage plant, built in 1970 with a capacity of 17 million cubic metres, is no longer large enough to satisfy Hydro's peak-shaving needs. On November 4, 1982, an agreement was reached whereby Washington Water Power Company of Spokane, Washington, will release to Hydro a portion of its capacity in the Jackson Prairie underground gas storage project near Chehalis, Washington. The agreement, which requires regulatory approval, will run for a minimum of five years. Gas will be injected into storage in the summer and, by exchange at Hydro's Huntingdon station, will be taken back during high demand periods in the winter. The agreement would increase Hydro's storage by 48 million cubic metres at an annual cost of \$2.3 million. Use of the Jackson Prairie facility will reduce gas supply costs and postpone the need for additional LNG storage facilities in the Lower Mainland.

Several proposed provincial government developments will affect Hydro's rail operations. Planning for the resulting relocation and adjustment of service was carried out during the year. The use of Hydro's Carrall Street yard property in Vancouver for Expo '86 will require relocation of rail facilities and rail customers who use buildings on this property. Construction of facilities which will allow relocation in Burnaby by December 31, 1983, is under way. The Marine Way Highway under construction through Burnaby has required the relocation of some maintenance facilities and will result in changes in access to Hydro's Trapp rail yard in New Westminster. Track changes have been made which will accommodate a new rail overpass, the first structure to be built for the First Capital City waterfront redevelopment in New Westminster. The Greater Vancouver advanced light rapid transit (ALRT) system now under construction will use 16 km of Hydro railway rights-of-way.

Customers on southern Vancouver Island and the Gulf Islands were appreciative of Hydro crews' work in restoring electric service after a severe storm struck the area in December.



Construction of the Revelstoke hydroelectric project, 5 km north of Revelstoke on the Columbia River, is nearing completion. It will comprise a 175-metre-high, 473-metre-long concrete dam in the river channel, a 122-metre-high, 1160-metre-long earthfill wing dam stretching across a terrace on the west bank of the river and a powerplant with an ultimate capacity of 2 764 500 kW.

Both the concrete and earthfill dams are almost completed and installation of four generating units is well under way. The in-service

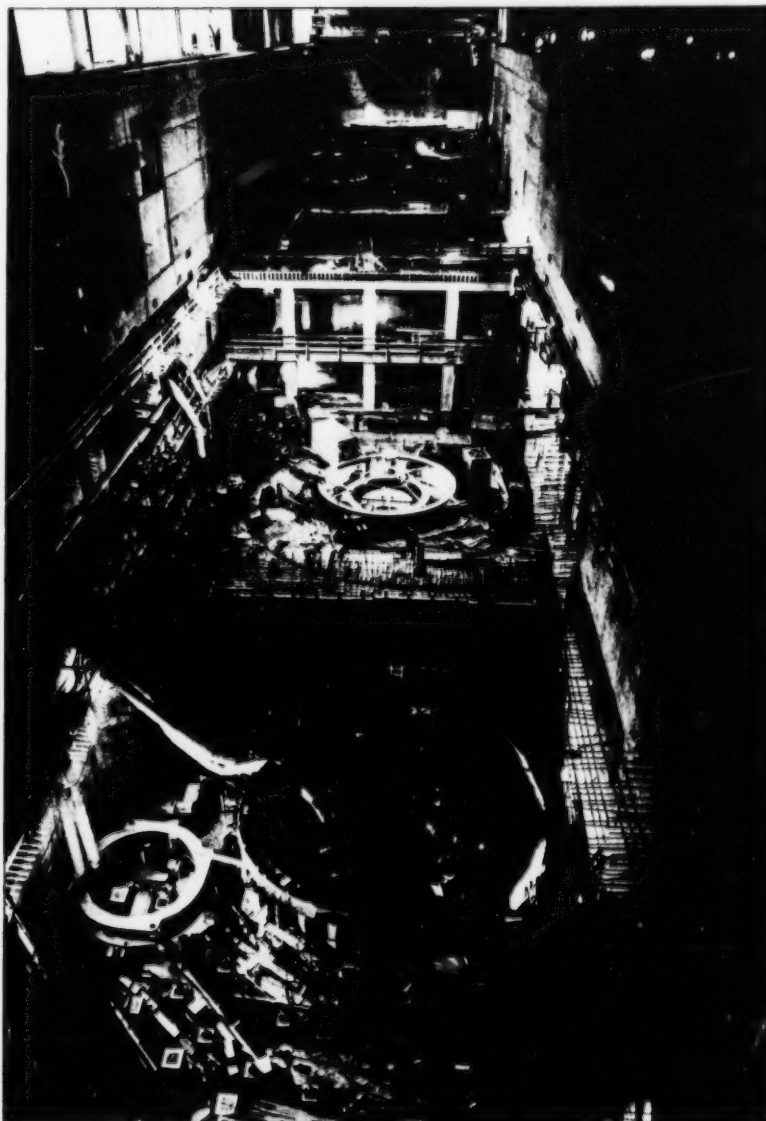
date for these units is expected to be 1984. Provision has been made to allow for the addition of two more units later if peaking capacity is needed. Reservoir filling is expected to start in fall 1983. Monitoring of the Downie Slide, about 55 km upstream, continued. The underground drainage system was extended to provide additional stabilization and instrumentation was completed.

Hydro operates more than 40 powerplants constructed by predecessor organizations between 1903 and 1961 and five newer, larger plants built by Hydro since its formation. Surveillance and inspection of all dams is carried out regularly to ensure overall stability, continued safe operation and security against extreme floods and earthquakes.

As a result of reviews carried out over the past few years, several older dams have been strengthened to resist earthquakes and extreme floods. Modifications were made to Comox Lake Dam during 1982-83, and a new earthfill dam will be constructed in 1983 downstream of the earthfill portion of 55-year-old Alouette Dam.

Dams built since 1961 and dams now being planned incorporate current technology. For each project a panel of internationally-recognized experts is appointed by the Chief Engineer to review all aspects of design and construction, with particular emphasis on safety.

High-voltage laboratory equipment from Hydro's research centre in Surrey is being used to check submarine cables for the 500 kV alternating current transmission connection between the mainland and Vancouver Island. Some sections of these cables, which are the highest-voltage submarine cables in the world, were laid in summer 1982. The others will be placed in 1983 and 1984. Related extension of two existing substations and construction of six new substations are nearly complete. Project costs have been below estimates and all work is on



Installation of four generating units is well under way in the powerhouse at the Revelstoke hydroelectric project on the Columbia River.

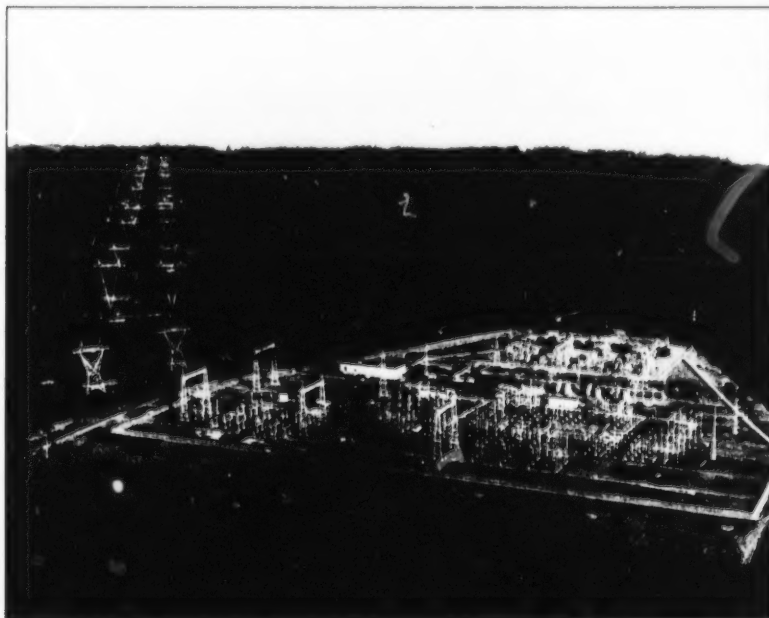
schedule. Serious damage suffered in May 1982 from explosions at Dunsmuir Substation, the Vancouver Island terminus, has been repaired.

Clearing has begun for a 147 km, 500 kV transmission line from Kelly Lake Substation near Clinton to Nicola Substation near Merritt. When this circuit is completed in 1984, it will interconnect transmission from hydroelectric projects on the Peace and Columbia rivers. Foundations were set and towers erected for a 117 km, 500 kV transmission line between Nicola Substation and Ashton Creek Substation near Vernon.

More than two years of planning, design, co-ordinating and construction culminated in electric service being supplied to the northeast coal development at Tumbler Ridge in mid-October 1982, ahead of schedule and at less than budgeted cost.

The entire project comprises a 127 km, 230 kV transmission line from Gordon M. Shrum Generating Station on the Peace River to the coal development, a new substation at Tumbler Ridge, two 27 km, 230 kV lines to the Bullmoose and Quintette mines and an overhead and underground 25 kV distribution system to supply the new town of Tumbler Ridge.

Dunsmuir Substation on Vancouver Island will be the western terminus of the new transmission connection between the mainland and the Island.



The line to Tumbler Ridge will become the power source for the first electrified heavy-haulage railway line in B.C., a 130 km British Columbia Railway branch line which will operate at 50 kV, a first for Canadian rail and only the third of its type in the world.

New transmission connections were made to serve other large customers at Esquimalt, Fort St. John, Fraser Lake, Fraser Mills, Goldstream and Sparwood.

Work progressed on the Cathedral Square project, which will combine a large underground substation in downtown Vancouver with a landscaped street-level park being developed jointly by Hydro and the City of Vancouver. New substations were completed in Cranbrook, the Fraser Valley and on Vancouver Island, as was a new switching station which will serve increased demand in the Powell River area.

A net total of 445 km of transmission lines and an estimated 1117 km of distribution lines and additional substation capacity of 2 497 000 kV-A were added to the electric system during the year.

In the Greater Vancouver and Fraser Valley natural gas service areas 110 km of mains and services, compared with 238 km the previous year, were added to the distribution system to accommodate new customers.

A high-power laboratory is under construction at Hydro's Surrey research centre and is scheduled to be in service by mid-1983. Work at this facility will include testing of fuses, reclosers, circuit breakers and other distribution system protective devices.

The Site C hydroelectric project, located on the Peace River downstream from the W.A.C. Bennett and Peace Canyon dams and about 5 km from Fort St. John, is one of the most economic new projects available. If approved and constructed, it would have an installed capacity of 900 000 kW and an average annual energy capability of 4770 GW-h, corresponding to about three years' load growth. The planned in-service date for this project is 1991.

Installation of generating units at the existing Hugh Keenleyside Dam and construction of a low-head

project at Murphy Creek are being planned in order to develop the hydroelectric potential of the Columbia River below Revelstoke. The combined installed capacity would be 510 000 kW, with an average annual energy capability of 2840 GW·h. The powerplant at Keenleyside would consist of three 70 000 kW units. The Murphy Creek project, 3 km upstream of Trail, would have five 60 000 kW units. Engineering and environmental studies for both projects have reached the stage where applications for energy project certificates could be made in 1983.

The proposed Hat Creek 2 000 000 kW conventional thermal-

electric project has been deferred indefinitely and \$77 million in related expenditures since 1973-74 has been written off. Hydro owns both Crown-granted coal and coal licences in the Hat Creek Valley and these will be retained.

Work continued on studies of possible hydroelectric development of the Stikine-Iskut river basin in northwestern B.C. to meet additional requirements for energy in the middle to late 1990s.

Engineering and environmental studies of possible hydroelectric sites on the Homathko River in the Coast Mountains of southern B.C. are continuing.

Detailed engineering and environmental studies to define an acceptable Kootenay Diversion project and determine whether or not to seek licensing continued.

In view of economic conditions and the lower load forecast, major engineering studies of the potential 4 400 000 kW Liard development near the B.C.-Yukon border have been deferred.

Although expenditures on studies have been reduced considerably because of economic conditions, overview and feasibility studies are being continued on a number of small hydroelectric projects such as development of the Elaho River, about 50 km northwest of Squamish. Preliminary studies of alternative resources such as wind power, solar energy, ocean power, biomass and small hydroelectric projects also are continuing.

The geothermal drilling exploration program at Meager Creek, near Pemberton, has been suspended but Hydro will continue to monitor and test the three deep production-size wells drilled to date in order to help determine the scope of the resource. To protect its interest in this alternative energy source, Hydro submitted a request for permits under the new provincial Geothermal Resources Act.

Studies also continued on a number of planned 500 kV transmission projects.

Huge transformer is manoeuvred through downtown Vancouver on way to Cathedral Square project, which will combine an underground substation with a street-level park.



During the year, a collective agreement was concluded with the Management and Professional Employees' Society (MAPES), covering more than 1400 employees. The agreement, which provided a salary increase of 5% in the period December 1, 1982, to November 30, 1983, was accepted by the provincial Compensation Stabilization Commissioner.

Collective agreements with other bargaining units expired March 31, 1983, and initial approaches have been made towards negotiations for new contracts.

A relocation centre was established to make available a variety of confidential, job search-related services for Hydro employees whose positions were eliminated as a result of restraints and the reduced demand for services.

Major efforts were directed towards improving human resource planning on an organization-wide basis, including upgrading personnel practices and programs to make

more information available to managers.

A productivity advisory centre was formed to supply a research and advisory service to line managers.

Productivity continued to increase. At March 31, 1983, there were 167 electricity and gas customer accounts per Hydro employee, compared with 145 the previous year.

There were 32 recorded accidents involving members of the public and Hydro operations in 1982, down substantially from the previous year's figure of 52. This improvement reflects the value of Hydro's safety education programs, which reach a variety of audiences including students, members of community and farm organizations, municipal employees, private contractors, and emergency workers such as police and firefighters.

At March 31, 1983, there were 8212 regular and 455 temporary employees compared with 8610 regular and 1123 temporary at March 31, 1982, a reduction of 11% in total employees during the year.

Below: Customer service representative Shirley Mann (left) and district office clerk Heather Mosher, Parksville-Qualicum. Centre: Railway engineer Bill Hall, New Westminster. Right: Winder Jim Phillips, Surrey Electric Shop.



as at March 31, 1983

DIRECTORS:

- Robert W. Bonner, Q.C.
- *Charles W. Brazier, Q.C.
- ***Jack L. DeLair
- *Hugh R. Horne
- **Charles A. Lasser
- The Honourable Patrick L. McGeer
- *Archie C. McGougan
- ***Harold A. Moffat
- J. Norman Olsen
- **Charles E. Osterloh
- ***J. Guy Rose
- The Honourable Brian R.D. Smith, Q.C.
- *Sandra D. Sutherland
- **John S. Waldie
- ***L. Martin Wedepohl

- *Member of the Audit Committee
- **Member of the Budget Committee
- ***Member of the Energy Committee
- Member of the Executive Compensation Committee

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Eric H. Martin, *Executive Vice-President, Operations*
John P. Sheehan, *Executive Vice-President, Administration*
William D. Mitchell, *Secretary*
Elizabeth B. Fulwell, *Associate Secretary*
William M. Walker, *Chief Engineer*

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William D. Mitchell, *Vice-President and General Counsel*

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William A. Best, *Vice-President*
Conrad B. Guelke, *Director of Strategic Planning*

Public Affairs

Douglas K. Coupar, *Vice-President*

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Evan T. Davis, *Central Interior*
W. Basil Gale, *Operations Administration*
William D. Gill, *Operations Engineering*
Donald J. McLennan, *South Interior*
Gordon J. Roper, *Vancouver Island*
P. Donald Swoboda, *Lower Mainland*

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Division Managers:

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James C. Stevens, *Engineering Services*

Engineering Projects

Raymond H. Hunt, *Vice-President*

Division Managers:

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Robert H. Hill, *Station Projects*
Wallace E. Lyle, *Hydro Force Construction*
F. James Patterson, *Hydroelectric Generation Projects*

Gas Operations and Energy Conservation

†Maurice A. Favell, *Vice-President*

Division Managers:

Kenneth S. Henderson, *Gas Transmission and Distribution*
Alistair H. MacPherson, *Gas Engineering*
Timothy J. Newton, *Energy Conservation*

Research and Development

Harry M. Ellis, *Director*

†Appointed Vice-President, Gas Operations and Energy Conservation, effective September 1, 1982. He succeeded R. Keith Kidd, who retired August 31, 1982, after 26 years' service.

**OFFICE OF THE EXECUTIVE
VICE-PRESIDENT,
ADMINISTRATION**

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Division Managers:

David A. Harrison, *Comptroller*

William W. Winnett, *Treasurer*

General Corporate Services

Thomas A. Nordstrom,

Vice-President

Division Managers:

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Richard Johnson, *Purchasing and
Supply*

Desmond G. McKillop, *General
Services*

Robert J. Steele, *Computer and
Management Systems*

Personnel

James J. Donnelly, *Vice-President*

Division Managers:

Andrew D. Danyliu, *Human*

Resource Programs

Richard H. Downey, *Personnel*

C. Mark Leffler, *Labour
Relations*

Internal Audit

S. Edwin Banning, *Manager*

Railway Operations

Gerald I. Stevenson, *Manager*



J. Norman Olsen



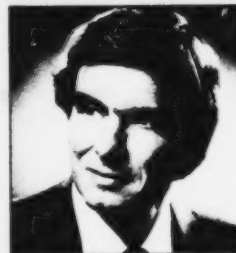
Eric H. Martin



John P. Sheehan



William D. Mitchell



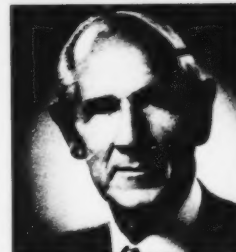
William A. Best



Douglas K. Coupar



Hugh J. Goldie



William W. Walker



Raymond H. Hunt



Maurice A. Favell



Ronald E. Avery



Thomas A. Nordstrom



James J. Donnelly

Financial Report

Financial Review

B.C. Hydro is the sixth-largest corporation in Canada based on assets as reported in the Financial Post 500, June 1982 and updated by B.C. Hydro on the basis of December 31, 1982 annual reports.

Canadian Companies Ranked by Assets

	Assets	Revenues	Net Income (Loss)
	(in millions)		
1) Hydro-Quebec	\$23,169	\$ 3,310	\$800
2) Ontario Hydro	20,662	3,388	348
3) Canadian Pacific Limited	17,273	12,289	188
4) Bell Canada	13,422	8,411	626
5) Dome Petroleum Limited	9,916	2,930	(369)
6) B.C. Hydro (March 1983)	8,910	1,528	(19)
7) Alcan Aluminium Limited*	6,633	4,709	(58)
8) Petro-Canada	7,552	3,379	131
9) Canada Development Corp.	7,526	4,011	(126)
10) Imperial Oil Limited	7,486	8,618	267

*The financial statements of Alcan Aluminium Limited are expressed in U.S. dollars. Translated into CDN \$ at the December 31, 1982 exchange rate of \$1.0000 U.S. = \$1.2288 CDN, total assets would have been \$8,151 million (CDN).

Rate Regulation and Financial Objectives

In 1980, the Utilities Commission Act was proclaimed establishing the British Columbia Utilities Commission (the Utilities Commission) and empowering it to regulate generally B.C. Hydro's electric and gas services, including rates, subject to any general or special direction of the Lieutenant Governor in Council with respect to the exercise of its powers.

In a special direction to the Utilities Commission regarding B.C. Hydro, the Lieutenant Governor in Council directed that B.C. Hydro should generate adequate funds from the efficient operation and conduct of its business to support all of its activities and debt and should achieve by the 1984 fiscal year an interest coverage ratio of 1.3:1 and should maintain that ratio thereafter so as to achieve and ultimately maintain a debt/equity ratio of 80:20. In the light of present circumstances, which include the provisions of the Rate Increase Restraint Act which limits B.C. Hydro to a 6% rate increase in the year ending September 30, 1983, that objective does not now appear achievable.

As at March 31, 1983, B.C. Hydro had an interest coverage ratio of 1.07:1 based on the Securities and Exchange Commission's (SEC) Ratio of Earnings to Fixed Charges, but after adjustment for the rate stabilization account and before the extraordinary item. B.C. Hydro's debt/equity ratio as at March 31, 1983 was 93:7.

The Utilities Commission decision of March 1983 required that interest coverage and debt/equity ratios be calculated differently for regulatory purposes. Under the Utilities Commission's method, the main differences with B.C. Hydro's historical method are:

- 1) For Interest Coverage — Income from temporary investments and income from sinking fund investments are not included in the computation of earnings but are deducted from total interest cost.
- 2) For Debt/Equity — Temporary investments are deducted from debt and the rate stabilization account, contributions in aid of construction and contributions arising from the Columbia River Treaty are considered equity.

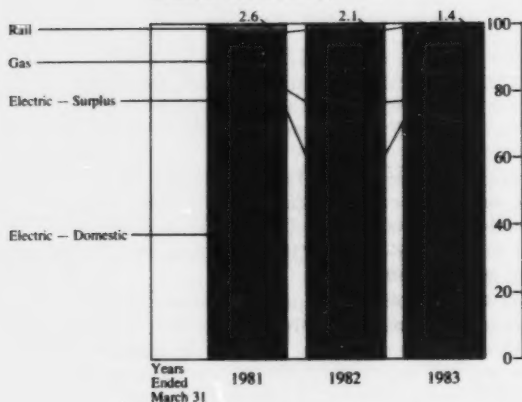
Ratios calculated under B.C. Hydro's historical method were as follows for the past five years:

Years Ended March 31					
	1983	1982	1981	1980	1979
Interest Coverage Ratio	1.07:1	1.17:1	1.21:1	1.21:1	1.26:1
Debt/Equity Ratio	93:7	93:7	93:7	95:5	94:6

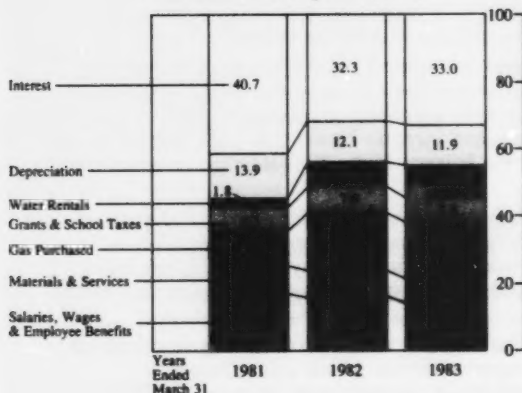
Under the Utilities Commission's method, B.C. Hydro's ratios for regulatory purposes would be as follows:

Years Ended March 31					
	1983	1982	1981	1980	1979
Interest Coverage Ratio	1.08:1	1.22:1	1.24:1	1.23:1	1.30:1
Debt/Equity Ratio	84:16	83:17	85:15	85:15	84:16

Sources of Revenue (percent)



Distribution of Expenses (percent)



Results of Operations

Operating income was \$77 million for the year ended March 31, 1983, compared to \$210 million in 1982 and \$113 million in 1981. These large changes in income are primarily due to fluctuating export surplus sales. Export surplus sales earned an operating income of \$79 million in 1983, \$196 million in 1982 and \$62 million in 1981.

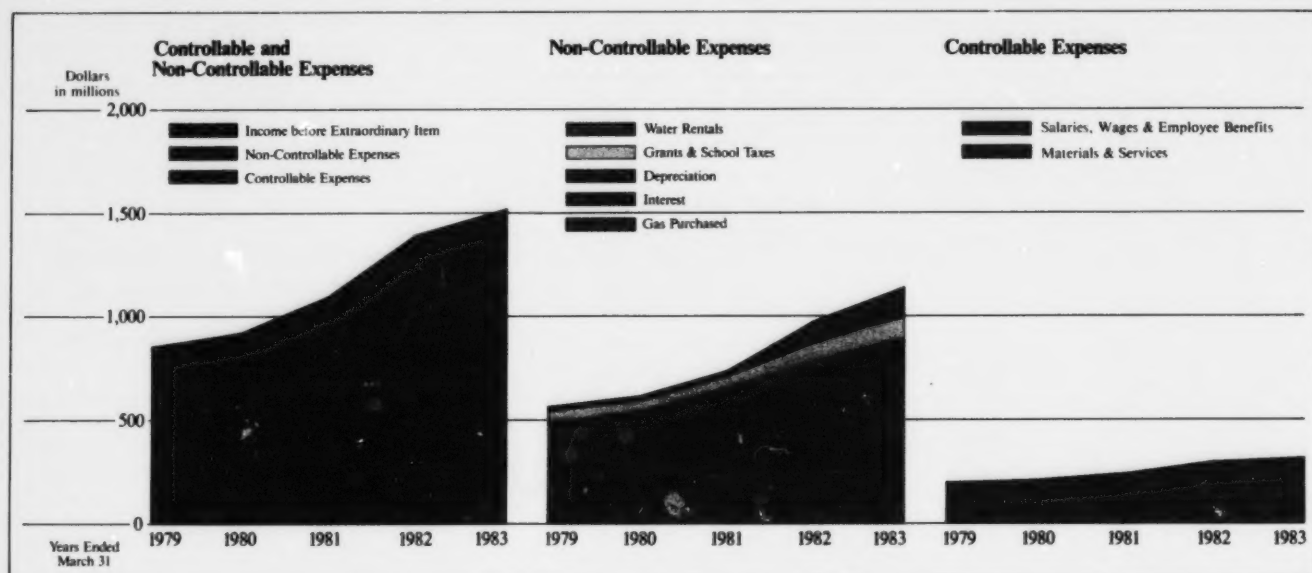
After providing for the rate stabilization account and the extraordinary item, a net loss of \$19 million resulted compared to net income of \$120 million in 1982 and \$113 million in 1981. The extraordinary item in the current year represents a \$77 million charge against income for the Hat Creek Project which was deferred indefinitely in July 1982 as a result of reduced rates of growth in projected electrical demand and rising costs of the project.

Total revenues for 1983 amounted to \$1,528 million of which \$1,431 million relate to domestic operations. The increase in revenues from domestic operations in 1983 of \$191 million or 15% is attributable primarily to general rate increases and higher rates to recover increased non-controllable costs of water rentals and natural gas purchases.

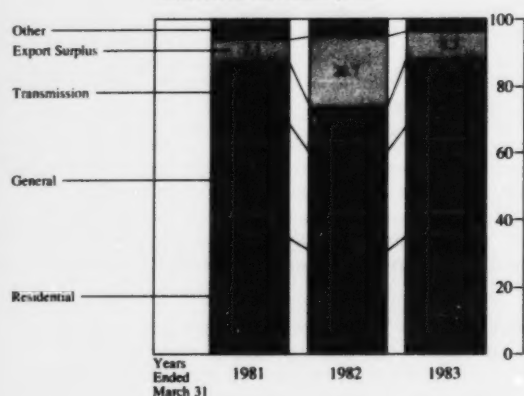
The cost of providing services for the year, before interest, totalled \$972 million, an increase of \$117 million or 14% over the previous year. This increase was the result of higher non-controllable costs, especially grants, school taxes and water rentals.

Corporate interest costs on borrowed funds charged to operations amounted to \$479 million in 1983, an increase of \$71 million or 17% over the previous year. The higher interest charge to operations was due to the placing in service of additional fixed assets, higher interest rates and the depreciation of the Canadian dollar relative to the U.S. dollar.

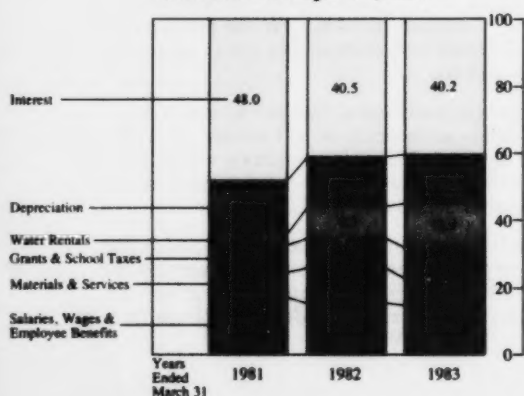
Management has continued its restraints on expenditures and hiring practices with the result that employee costs and costs for materials and services were held to a \$12 million or 4% increase over the prior year. Controllable expenses as a share of total expenses decreased from 26% in 1979 to 21% in 1983.



Electric Sources of Revenue (percent)



Electric Distribution of Expenses (percent)



Electric Service

Operating income for the electric service was \$76 million in 1983 compared to \$192 million in 1982. Domestic operations had an operating loss of \$3 million for the year compared to an operating loss of \$4 million in 1982. Export surplus sales earned an operating income of \$79 million in 1983 compared to \$196 million in 1982.

In 1983, export surplus revenues were \$97 million, a decrease of \$136 million or 58% from the record revenues of the previous year. The decrease was due to limitations in transmission capabilities and to lower prices and volumes as a result of the greater competition from utilities in the U.S. Pacific Northwest for the available markets.

A rate stabilization account was established as directed by the Utilities Commission in 1982. At that time, \$90 million of the income from export surplus sales was transferred to the account. During 1983, a net transfer of \$19 million was made into the account representing the excess of income from export surplus sales in 1983 over a transfer of \$60 million from the account to income.

The electric service income from domestic and export surplus electric operations after the rate stabilization account and before the extraordinary item was \$57 million in 1983 compared to \$102 in 1982.

Domestic and other revenues increased \$184 million or 21% over the previous year. The increased revenues are primarily the result of increased rates as the total sales volumes have remained relatively constant. An analysis of the \$184 million revenue increase shows that \$127 million is due to a general rate increase and the balance to the flow-through of water rental increases.

Consumption for transmission rate customers decreased for the second successive year and was 3% below the previous year. This decrease is primarily the result of the slowdown in the economy. Consumption had decreased 3% in 1982 compared to 1981 mainly as a result of strikes within the forest industry.

Expenses, excluding interest, relating to domestic operations increased \$119 million or 23% over the previous year which was principally attributable to water rentals payable to the provincial government. The increased water rentals were passed on to the electric customers when approved by the Utilities Commission.

Operating Statistics — Electric Service **years ended March 31**

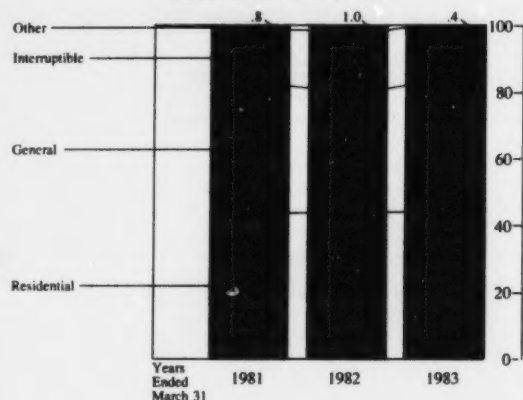
	1983	1982	1981	1980	1979	1978	1977	1976	1975	1974	1973
Generating nameplate capacity at year-end (rated kW in thousands)*											
Hydro	7 491	7 491	7 491	6 588	5 883	5 883	5 449	3 882	3 618	3 318	3 318
Thermal	1 341	1 347	1 346	1 360	1 363	1 293	1 301	1 299	1 104	1 061	1 041
Total	8 832	8 838	8 837	7 948	7 246	7 176	6 750	5 181	4 722	4 379	4 359
Peak one-hour demand integrated system (kW in thousands)	5 508	5 902	5 475	5 198	5 091	4 621	4 258	4 063	3 791	3 578	3 499
Customers at year-end											
Residential	967 754	943 587	915 270	882 923	858 397	829 266	797 588	760 066	733 432	697 366	664 442
General	132 383	130 818	128 163	124 754	123 124	121 407	117 580	113 579	108 006	102 535	99 191
Transmission	65	62	59	55	52	48	47	48	47	47	47
Other**	2 227	2 433	2 636	2 166	2 487	1 730	1 650	1 566	1 458	1 314	1 236
Export Surplus	13	14	10	14	16	13	12	—	12	6	4
Total electric customers	1 102 442	1 076 914	1 046 138	1 009 912	984 076	952 464	916 877	875 259	842 955	801 268	764 920
Electricity sold (kW-h in millions)											
Residential	8 790	8 755	8 104	7 611	7 407	7 040	6 664	6 246	5 782	5 281	4 800
General	9 736	9 727	9 377	8 925	8 596	8 137	7 675	7 094	6 837	6 515	5 755
Transmission	9 040	9 305	9 612	9 229	9 147	8 527	8 166	6 808	7 714	7 776	7 072
Other**	1 074	1 177	1 129	688	623	446	672	490	394	375	404
Domestic and other	28 640	28 964	28 222	26 453	25 773	24 150	23 177	20 638	20 727	19 947	18 031
Export Surplus	3 623	6 315	1 816	870	1 310	3 907	1 706	—	807	2 031	1 112
Total electricity sold	32 263	35 279	30 038	27 323	27 083	28 057	24 883	20 638	21 534	21 978	19 143
Increase (decrease) over previous year (%)	(8.5)	17.4	9.9	0.9	(3.5)	12.8	20.6	(4.2)	(2.0)	14.8	18.1
Electric Revenue (dollars in millions)											
Residential	\$ 410	\$ 348	\$312	\$267	\$255	\$217	\$180	\$142	\$119	\$ 98	\$ 91
General	389	328	301	261	246	205	169	138	116	105	94
Transmission	228	161	153	120	105	85	72	46	46	46	39
Other**	34	30	29	19	18	14	12	10	8	7	6
Rents and Miscellaneous	14	24	24	15	14	12	11	8	6	4	4
Domestic and other	1 075	891	819	682	638	533	444	344	295	260	234
Export Surplus	97	233	63	35	33	78	23	—	5	10	3
Total electric revenues	\$1,172	\$1,124	\$882	\$717	\$671	\$611	\$467	\$344	\$300	\$270	\$237
Average revenue per kW-h (cents)											
Residential	4.7	4.0	3.8	3.5	3.4	3.1	2.7	2.3	2.1	1.9	1.9
General	4.0	3.4	3.2	2.9	2.9	2.5	2.2	2.0	1.7	1.6	1.6
Transmission	2.5	1.7	1.6	1.3	1.1	1.0	0.9	0.7	0.6	0.6	0.5
Other**	3.1	2.6	2.6	2.8	2.9	3.1	1.8	2.0	1.9	1.8	1.6
Export Surplus	2.7	3.7	3.5	4.1	2.5	2.0	1.3	—	0.6	0.5	0.3
Average annual kW-h use per residential customer	9 214	9 413	9 001	8 736	8 747	8 620	8 452	8 370	7 928	7 694	7 365
Lines in service											
Distribution (kilometres)	41 906†	40 789	39 472	38 279	37 125	36 129	35 093	34 089	32 701	31 378	29 735
Transmission (circuit kilometres)	16 543	16 098	15 335	15 258	14 793	14 259	14 082	12 733	12 424	12 435	12 374

* Excludes electricity available from other systems. Rated capacity has been exceeded on occasion.

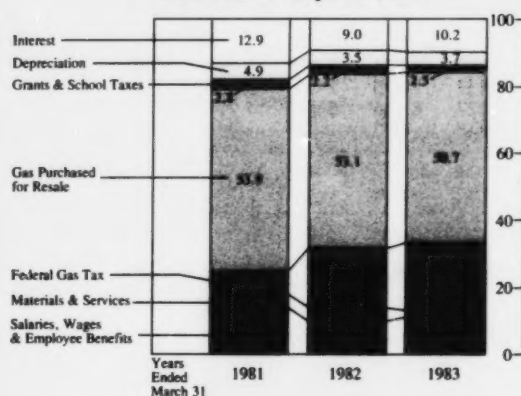
**Includes contracted export sales. Also includes Irrigation and Street Lighting categories which were formerly classified as General.

† Estimated.

**Gas
Sources of Revenue (percent)**



**Gas
Distribution of Expenses (percent)**



Gas Service

Operating income for the gas service was \$3 million in 1983 compared to \$10 million in 1982. Of this \$7 million decrease in income, approximately \$5 million is attributable to the warmer than normal winter temperatures with the balance explained by the economic recession.

Gas revenues increased \$16 million or 5% over the previous year. This increase reflects a \$51 million increase attributable to price offset by the impact of lower volumes.

The \$51 million price increase in 1983 results from a \$35 million increase for the recovery of increased wholesale prices and federal government levies on the purchases of natural gas and \$16 million for the general rate increase to cover general expenses.

The volume of gas sold in 1983 decreased by 10 278 terajoules or 11% to 85 969 terajoules primarily because of the economic slowdown, increased customer emphasis on energy conservation and the warmer than normal winter heating season.

During the peak heating season from September 1982 to March 1983, degree days, a measure of daily mean temperature variation below 18 degrees Celsius, were 9% lower than the previous year. This resulted in a decrease in the heating requirement for the residential and general customer categories which are climate dependent. Residential consumption decreased 4 048 terajoules or 11% from the previous year while general consumption decreased 10% or 3 702 terajoules.

Interruptible consumption decreased by 11% or 2 528 terajoules mainly as a result of the economic slowdown.

Expenses, excluding interest, increased by \$16 million or 6% over the previous year which was mainly due to higher costs per terajoule for gas purchases.

Rail Freight Service

For the first time in its history, the rail freight service incurred a loss. The operating loss reported was \$3 million as compared to net income from operations of \$3 million in 1982 and 1981.

Revenues from rail freight operations were \$22 million, down \$5 million or 19% from the previous year. This decrease in revenues is primarily due to a decrease of 599 thousand tonnes of freight handled. The reduced demand for B.C. forest industry products plus a marked decline in the number of domestic vehicles carried were the principal reasons for the decrease.

Operating Statistics — Rail Freight Service years ended March 31

	1983	1982	1981	1980	1979	1978	1977	1976	1975	1974	1973
Freight Carried (tonnes in thousands)	1 784	2 383	2 458	2 603	2 536	2 397	2 393	2 321	2 494	2 539	2 246

Operating Statistics — Gas Service

years ended March 31

	1983	1982	1981	1980	1979	1978	1977	1976	1975	1974	1973
One-day capacity at year-end (terajoules)											
Mainland — firm pipeline contracts	413	409	388	380	422	422	422	422	411	344	281
— plant	158	158	158	158	158	158	158	158	158	158	158
Greater Victoria — plant	6	6	6	6	6	6	6	6	6	6	6
Peak one-day demand (terajoules)											
Mainland system											
— including interruptible	493	586	493	507	510	404	377	430	368	384	365
— excluding interruptible	419	564	488	486	508	402	365	364	356	331	354
Greater Victoria system	1	2	2	2	2	2	2	2	2	3	3
Customers at year-end											
Residential	304 326	294 838	282 894	263 036	252 032	245 638	238 290	228 848	220 027	210 187	199 909
General	37 443	36 476	35 374	34 537	33 684	32 596	31 365	30 120	29 227	27 925	27 319
Interruptible	99	95	98	103	103	101	112	115	121	125	137
Total gas customers	341 868	331 409	318 366	297 676	285 819	278 335	269 767	259 083	249 375	238 237	227 365
Gas sold (terajoules)											
Residential	33 646	37 694	31 806	31 962	32 450	31 215	30 552	32 093	29 485	28 371	27 007
General	32 367	36 069	32 057	32 085	34 001	30 568	28 119	28 313	25 412	24 178	21 334
Interruptible	19 956	22 484	21 758	24 027	21 282	21 490	21 335	20 150	22 202	22 466	20 102
Total gas sold	85 969	96 247	85 621	88 074	87 733	83 273	80 006	80 556	77 099	75 015	68 443
Increase (decrease) over previous year (%)	(10.7)	12.4	(2.8)	0.4	5.4	4.1	(0.7)	4.5	2.8	9.6	8.0
Gas revenues (dollars in millions)											
Residential	\$145	\$139	\$ 81	\$ 75	\$ 74	\$ 66	\$ 52	\$46	\$40	\$33	\$32
General	126	118	70	64	66	46	35	30	25	20	17
Interruptible	60	56	33	33	29	23	16	13	13	8	7
Rents and Miscellaneous	1	3	1	1	1	1	1	1	—	—	—
Total gas revenues	\$332	\$316	\$185	\$173	\$170	\$136	\$104	\$90	\$78	\$61	\$56
Average revenue per gigajoule (in dollars)	3.85	3.25	2.14	1.95	1.93	1.62	1.30	1.11	1.01	.81	.81

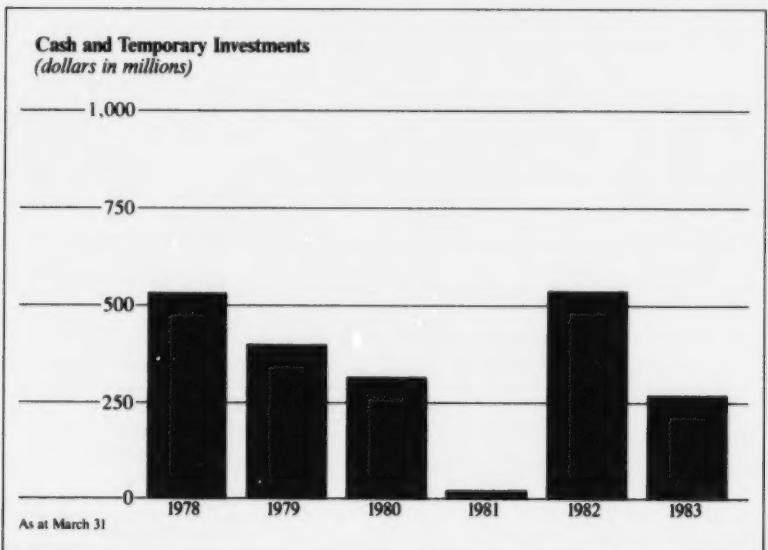
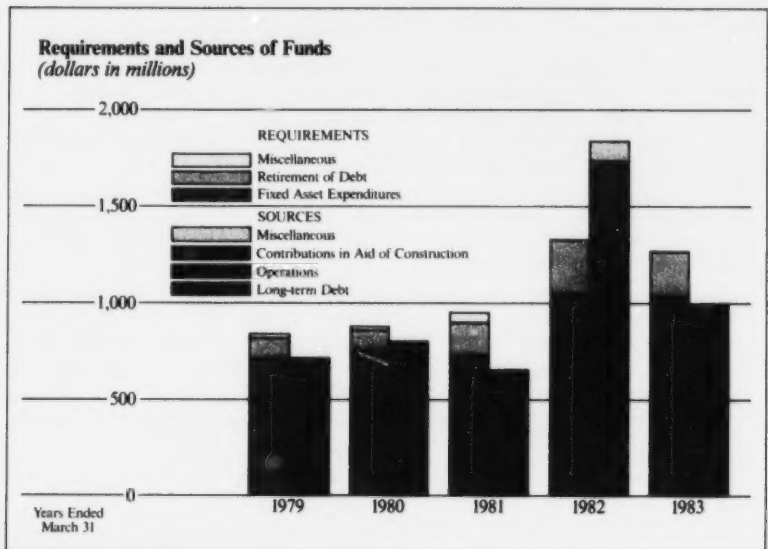
Capital Requirements and Financing

During the year ended March 31, 1983, capital expenditures again exceeded \$1 billion because of the large capital requirements for the Revelstoke project and the Mainland-Vancouver Island 500 kV transmission interconnection. The following table is a summary of actual capital expenditures for the period 1979 through 1983:

Total Fixed Asset Expenditures Year Ended March 31					
	1983	1982	1981	1980	1979
(in millions)					
Electric					
Generation	\$ 502	\$ 465	\$281	\$400	\$378
Transmission	260	213	176	127	123
Transformation	119	149	95	71	68
Distribution	85	104	107	94	84
Other	31	60	36	34	33
Total Electric	997	991	695	726	686
Gas	37	60	44	27	24
Rail	1	2	1	2	7
Sundry	2	—	—	—	1
Total	\$1,037	\$1,053	\$740	\$755	\$718

Expenditures incurred to date for the Revelstoke project total \$1,467 million. Construction of the Revelstoke power plant started in 1977 and is scheduled to be completed in 1984. The in-service dates for this project were deferred with the first two units expected to come into service in early 1984 and the last two in late 1984.

The utility industry is a capital-intensive industry and, as is common in this industry, significant funds from external sources are required. Proceeds received from external sources are added to B.C. Hydro's general funds and applied toward its capital expenditures program. B.C. Hydro's policy is to seek to have capital expenditure requirements pre-funded by prior issues of long-term debt.



The international capital markets were uncertain during the first half of the fiscal year with interest rates remaining at high levels. Interest rates started falling last August and the reduction in rates exceeded the expectations of most economists. Borrowing conditions in the Canadian capital market were difficult during the first half of the fiscal year, particularly for long-term funds. B.C. Hydro reduced its temporary investments over the year from \$530 million to \$265 million by March 31, 1983.

During the year, B.C. Hydro borrowed U.S. \$550 million from the public financial markets in Europe at an average effective annual interest cost of 13.94%. There were no Canadian dollar borrowings during the year.

At March 31, 1983, B.C. Hydro's outstanding long-term debt totalled \$7,649.0 million; of this amount, 56% was in Canadian dollars and the remainder in U.S. dollars. The average cost of borrowing for all debt outstanding in 1983 was 11.01%.

Many long-term borrowings have sinking fund provisions to ensure that funds are available at maturity to repay a significant portion of the debt. At March 31, 1983, the sinking fund balance totalled \$585.4 million.

B.C. Hydro has triple A ratings from the two major financial rating agencies in the United States, Moody's Investor Services and Standard & Poor's Corporation. In the last half of fiscal 1983, both Moody's and Standard & Poor's announced that they were reviewing the Province and B.C. Hydro's triple A credit ratings as a result of the temporary economic conditions within British Columbia.

Corporate Information

Head Office

970 Burrard Street
Vancouver, British Columbia
Canada, V6Z 1Y3

Auditors

Price Waterhouse

Bankers

Canadian Imperial Bank of Commerce

Registrars

Securities issued by B.C. Hydro:

Canadian issues:

B.C. Hydro

United States issues:

Canadian Imperial Bank of Commerce
Trust Company, New York

Securities issued by the former British Columbia
Electric Company Limited:

Montreal Trust Company

Securities issued by the former British Columbia
Power Commission:

B.C. Hydro

Financial Statements

Management Report

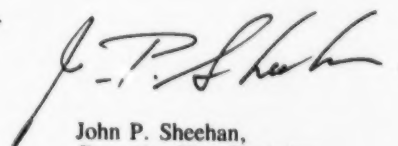
The financial statements of B.C. Hydro have been prepared by management in accordance with accounting principles generally accepted in Canada consistently applied and appropriate in the circumstances. Because a precise determination of many assets and liabilities is dependent upon future events, the preparation of periodic financial statements necessarily involves the use of estimates and approximations which have been made using careful judgement. The financial statements have, in management's opinion, been properly prepared within reasonable limits of materiality and within the framework of the accounting policies summarized in the notes to the financial statements. Financial information presented elsewhere in this Annual Report is consistent with that in the financial statements.

Management depends upon a system of internal controls in order to provide reasonable assurance, on a cost-effective basis, that financial information is reliable and accurate. This system includes formal written policies and procedures, the careful selection and training of qualified personnel, and an organizational structure that provides for the appropriate delegation of authority and segregation of responsibilities. Our internal auditors monitor this system through the performance of a comprehensive internal audit program. Our independent auditors, Price Waterhouse, also perform such tests of the system of internal controls as they consider necessary for the purpose of expressing their opinion on the financial statements.

The Board of Directors pursues its responsibility for these financial statements principally through its Audit Committee which meets periodically with management as well as with the internal and the independent auditors who have full and free access to the Audit Committee, and meet with it to discuss auditing and financial reporting matters. Management is responsible for, and the Board of Directors has approved, all of the information in the Annual Report.



Robert W. Bonner, Q.C.,
*Chairman and Chief
Executive Officer*



John P. Sheehan,
*Executive Vice-President,
Administration*

Report of the Auditors

The Lieutenant Governor in Council,
Province of British Columbia:

We have examined the balance sheets of British Columbia Hydro and Power Authority as at March 31, 1983 and 1982, and the statements of income and earnings employed in the business and changes in financial position for each of the three years in the period ended March 31, 1983. Our examinations were made in accordance with generally accepted auditing standards, and accordingly included such tests and other procedures as we considered necessary in the circumstances.

In our opinion, these financial statements present fairly the financial position of British Columbia Hydro and Power Authority as at March 31, 1983 and 1982 and the results of its operations and the changes in its financial position for each of the three years in the period ended March 31, 1983, in accordance with generally accepted accounting principles consistently applied.

Vancouver, British Columbia
May 6, 1983

PRICE WATERHOUSE
Chartered Accountants

British Columbia Hydro and Power Authority

Statement of Income and Earnings Employed in the Business

for the years ended March 31

1983			
(in thousands)			
	Domestic and Other	Export Surplus	Total
Revenues:			
Electric	\$ 1,074,779	\$ 97,385	\$ 1,172,164
Gas	332,126	—	332,126
Rail	21,865	—	21,865
Sundry	2,296	—	2,296
	1,431,066	97,385	1,528,451
Expenses:			
Salaries, wages and employee benefits	212,122	—	212,122
Gas purchased for resale	233,235	—	233,235
Materials and services	94,963	4,533	99,496
Grants, school taxes and water rentals	240,301	14,038	254,339
Depreciation	173,326	—	173,326
	953,947	18,571	972,518
Operating income before interest	477,119	78,814	555,933
Interest (Note 9)	478,879	—	478,879
Operating income (loss)	(1,760)	78,814	77,054
Rate stabilization (Note 2)	60,000	(78,814)	(18,814)
Income before extraordinary item	\$ 58,240	\$ —	58,240
Extraordinary item (Note 12)			(77,000)
Net income (loss)			(18,760)
Earnings employed in the business:			
At beginning of year			512,581
At end of year			\$ 493,821

1982 and 1981 figures have been reclassified to conform with the presentation used for 1983.

1982			1981		
(in thousands)			(in thousands)		
Domestic and Other	Export Surplus	Total	Domestic and Other	Export Surplus	Total
\$ 891,448	\$ 232,531	\$ 1,123,979	\$ 818,654	\$ 63,033	\$ 881,687
315,764	—	315,764	185,010	—	185,010
27,231	—	27,231	25,151	—	25,151
5,623	—	5,623	5,061	—	5,061
1,240,066	232,531	1,472,597	1,033,876	63,033	1,096,909
196,818	—	196,818	165,675	—	165,675
218,853	—	218,853	113,090	—	113,090
96,274	7,211	103,485	77,490	1,417	78,907
152,685	30,219	182,904	89,714	—	89,714
152,592	—	152,592	136,276	—	136,276
817,222	37,430	854,652	582,245	1,417	583,662
422,844	195,101	617,945	451,631	61,616	513,247
408,004	—	408,004	400,208	—	400,208
14,840	195,101	209,941	51,423	61,616	113,039
—	(90,000)	(90,000)	—	—	—
\$ 14,840	\$ 105,101	119,941	\$ 51,423	\$ 61,616	113,039
		—			—
		119,941			113,039
		392,640			279,601
		\$ 512,581			\$ 392,640

British Columbia Hydro and Power Authority

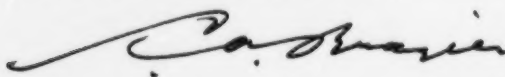
Balance Sheet

as at March 31

	1983	1982
	(in thousands)	
FIXED ASSETS (Note 3):		
Fixed assets in service, at cost	\$7,565,935	\$7,191,972
Less —		
Accumulated depreciation	1,498,372	1,344,936
	6,067,563	5,847,036
Unfinished construction	2,127,754	1,578,695
	8,195,317	7,425,731
CURRENT ASSETS:		
Cash	1,038	539
Temporary investments (Note 4)	265,024	530,262
Funds receivable from issue of long-term debt	—	7,036
Accounts receivable and unbilled revenues	248,980	285,755
Materials and supplies, at average cost	65,087	66,312
Prepaid expenses	27,943	5,343
	608,072	895,247
UNAMORTIZED DISCOUNT AND EXPENSE ON LONG-TERM DEBT	62,140	49,745
OTHER ASSETS (Note 5)	44,179	15,944
	\$8,909,708	\$8,386,667

1982 figures have been reclassified to conform with the presentation used for 1983 (Note 1).

APPROVED BY THE DIRECTORS:



Charles W. Brazier, Q.C., Director



Robert W. Bonner, Q.C., Director

	1983	1982
	<i>(in thousands)</i>	
LONG-TERM LIABILITIES:		
Long-term debt <i>(Notes 6 and 7)</i>	\$6,832,495	\$6,424,890
Deferred liabilities	58,372	79,398
	6,890,867	6,504,288
CURRENT LIABILITIES:		
Bank indebtedness	17,576	20,354
Accounts payable	246,464	257,925
Accrued interest	277,861	227,935
Long-term debt payments due within one year —		
Sinking fund instalments	86,893	71,962
Maturities, less sinking fund	144,181	105,181
	772,975	683,357
RATE STABILIZATION ACCOUNT <i>(Note 2)</i>	108,814	90,000
CONTRIBUTIONS ARISING FROM COLUMBIA RIVER TREATY	386,971	396,185
CONTRIBUTIONS IN AID OF CONSTRUCTION	256,260	200,256
EARNINGS EMPLOYED IN THE BUSINESS	493,821	512,581
COMMITMENTS AND CONTINGENCIES <i>(Note 10)</i>		
	\$8,909,708	\$8,386,667

British Columbia Hydro and Power Authority

Statement of Changes in Financial Position

for the years ended March 31

	1983	1982	1981
	<i>(in thousands)</i>		
SOURCES OF FUNDS:			
Operations			
Operating income	\$ 77,054	\$ 209,941	\$ 113,039
Charges (credits) not affecting funds:			
Depreciation	173,326	152,592	136,276
Other	11,436	(898)	180
Funds from operations	261,816	361,635	249,495
Long-term debt	663,360	1,334,379	325,178
Notes payable	—	—	48,000
Contributions in aid of construction	65,532	37,150	31,839
Miscellaneous	(48,220)	31,676	36,842
Change in — accounts receivable	36,775	(48,498)	(73,734)
— accounts payable	(11,461)	39,928	(9,673)
— accrued interest	49,926	81,524	6,823
— other current assets and liabilities	(17,117)	1,320	(13,509)
	1,000,611	1,839,114	601,261
USES OF FUNDS:			
Fixed asset expenditures*	1,037,398	1,053,342	739,902
Sinking funds —			
Instalments	72,101	54,484	47,902
Income	55,770	54,457	40,886
Retirement of —			
Long-term debt	100,081	116,044	71,693
Notes payable	—	48,000	—
	1,265,350	1,326,327	900,383
INCREASE (DECREASE) IN CASH AND TEMPORARY INVESTMENTS	(264,739)	512,787	(299,122)
CASH AND TEMPORARY INVESTMENTS AT BEGINNING OF YEAR	530,801	18,014	317,136
CASH AND TEMPORARY INVESTMENTS AT END OF YEAR	\$ 266,062	\$ 530,801	\$ 18,014

1982 and 1981 figures have been restated to conform with the presentation used in 1983 (Note 13).

*Includes interest capitalized in the amount of \$217,208,000; (1982 — \$141,884,000; 1981 — \$78,401,000).

Notes to Financial Statements

Note 1 Significant Accounting Policies:

B.C. Hydro is a Crown corporation of the Province of British Columbia. B.C. Hydro's electric and gas services, including rates, are subject to regulation by the British Columbia Utilities Commission. The accounting policies of the corporation conform to accounting principles generally accepted in Canada. A description of significant accounting policies follows. See also Note 2 for an explanation of the rate stabilization account.

Fixed assets and depreciation —

Fixed assets in service consist principally of land, water rights, storage dams, plants for the generation, transmission and distribution of electricity and the distribution of gas, freight railway and rolling stock, and include the cost of plant financed by contributions in aid of construction and contributions arising from the Columbia River Treaty.

The depreciation policy of B.C. Hydro is to charge the original cost of fixed assets to income over the estimated service lives of the assets. Depreciation is provided on all depreciable assets in service at the beginning of each year and is computed on the straight-line method. Composite rates by service were as follows:

	1983	1982	1981
	(%)	(%)	(%)
Electric	2.72	2.57	2.59
Gas	2.81	2.88	2.74
Rail	3.56	3.61	3.57

B.C. Hydro charges interest to unfinished construction at rates equivalent to the cost of borrowing those funds which have been expended annually on each construction project. The rate applied to expenditures in the year ended March 31, 1983 was 15.8% (1982 — 15.1%; 1981 — 12.6%).

As a result of a March 1983 British Columbia Utilities Commission instruction to reflect contributions on the balance sheet as they were in 1981 and previous years, contributions are now shown on the liabilities side of the balance sheet at amounts net of amortization and the balance sheet for 1982 has been reclassified accordingly.

Contributions in aid of construction are being amortized over the estimated service lives of the related assets, and the credit resulting therefrom is offset against the corresponding provision for depreciation. Contributions arising from the Columbia River Treaty are being amortized over the remaining term of the Treaty, which expires in 2025, and the credit resulting therefrom is offset against and is equal to the annual provision for depreciation of the related assets.

Contributions received in respect of unfinished construction are included with deferred liabilities until the assets are placed in service.

Unamortized discount and expense on long-term debt —

These costs are amortized by charges to income over the life of the respective issues.

Foreign exchange —

The liability for long-term debt payable in United States currency is translated to Canadian currency at the rates of exchange prevailing at the date the debt was incurred. Current assets and current liabilities in United States currency, including long-term debt payable within one year, are translated at the rate of exchange prevailing at the date of the balance sheet. Foreign exchange adjustments are included in income.

British Columbia Hydro and Power Authority

Note 2 Rate Stabilization:

The British Columbia Utilities Commission directed B.C. Hydro to create as of March 31, 1982, an account to be known as the rate stabilization account in the amount of \$90,000,000, derived from export sales of surplus electric energy.

For fiscal years subsequent to March 31, 1982, B.C. Hydro has been directed to credit to the rate stabilization account annually, an amount based upon revenues derived from export sales of surplus electric energy (exclusive of sales of firm energy under approved export contracts, including Washington Water Power Company) less direct expenses associated with such sales, including water rentals calculated by reference to the electricity generated to make such export sales, provided the account does not at any time exceed \$200,000,000.

For each of the fiscal years subsequent to March 31, 1982, the Commission has ordered B.C. Hydro to transfer from the rate stabilization account an amount of \$60,000,000, or such lesser amount as will reduce the account balance to nil, to be credited to income in the year, unless otherwise directed.

An analysis of the rate stabilization account is as follows:

	1983	1982
	<i>(in thousands)</i>	
Balance at beginning of year	\$ 90,000	\$ —
Transfers from income	78,814	90,000
Transfers to income	(60,000)	—
Balance at end of year	\$108,814	\$90,000

Note 3 Fixed Assets:

	1983			1982		
	Fixed Assets in Service			Unfinished Construction	Total	Total
	Original Cost	Accumulated Depreciation	Net Book Value			
	<i>(in millions)</i>					
Electric Service:						
Generation and storage	\$3,079	\$ 515	\$2,564	\$1,455	\$4,019	\$3,685
Transmission	1,410	251	1,159	418	1,577	1,347
Transformation	940	193	747	203	950	860
Distribution	1,103	289	814	—	814	765
Buildings and other	366	107	259	17	276	244
Total electric service	6,898	1,355	5,543	2,093	7,636	6,901
Gas Service	443	76	367	6	373	349
Rail Freight Service	48	20	28	1	29	29
Common Properties	167	48	119	28	147	138
Sundry	10	—	10	—	10	9
Total	\$7,566	\$1,499	\$6,067	\$2,128	\$8,195	\$7,426

Note 4
Temporary
Investments:

	1983	1982
	<i>(in thousands)</i>	
Temporary investments, at lower of cost or market—		
Deposits with banks and other financial institutions	\$211,245	\$497,361
Notes of banks and other financial institutions	46,721	26,102
Other	7,058	6,799
	\$265,024	\$530,262

Note 5
Other Assets:

Included in other assets is an amount of \$14.5 million representing payments made for 260 million cubic metres of gas not taken.

B.C. Hydro purchases gas under a gas supply contract with a "take or pay" provision requiring payments for minimum quantities of gas whether taken or not taken. The contract allows B.C. Hydro to take such volume of gas paid for but not taken in the subsequent five years without further payment, provided it is taken in years when the load factor exceeds the minimum obligation for the year.

To recover these amounts B.C. Hydro has contracted to lease underground storage facilities in the State of Washington. Upon approval by the National Energy Board of Canada and the U.S. Department of Energy these storage facilities will provide the gas system with peak shaving capacity that will enable B.C. Hydro to use the volume of gas paid for but not taken.

Note 6
Long-Term Debt:

	1983	1982
	<i>(in thousands)</i>	
Total long-term debt outstanding —		
Payable in Canadian currency	\$4,317,673	\$4,468,053
Payable in United States currency (U.S. \$2,961,300; 1982 U.S. \$2,440,050)	3,331,313	2,675,395
	7,648,986	7,143,448
Less: Sinking funds on deposit with Trustee, Minister of Finance for the Province of British Columbia	585,417	541,415
	7,063,569	6,602,033
Less: Long-term debt payments due within one year —		
Sinking fund instalments	86,893	71,962
Maturities, less sinking fund	144,181	105,181
	231,074	177,143
	\$6,832,495	\$6,424,890

Had the long-term debt payable in United States currency all been translated to Canadian currency at the foreign exchange rate prevailing at March 31, 1983, the liability would have been increased by approximately \$332,000,000 (1982 — \$323,000,000).

B.C. Hydro (including its predecessor companies) had 146 series of long-term debt outstanding at March 31, 1983 (1982 — 147). Coupon rates on this long-term debt range from 3¼% to 16¼%. The average effective interest cost on long-term debt denominated in Canadian dollars outstanding at March 31, 1983 is 9.17% (1982 — 9.14%). For long-term debt denominated in United States dollars at March 31, 1983 the cost is 12.09% (1982 — 11.64%).

British Columbia Hydro and Power Authority

Note 6 (continued)

The following long-term debt was issued by B.C. Hydro during the year ended March 31, 1983:

Coupon Rate %	Series	Date of Maturity	Principal
14%	FK	May 6, 1989	U.S. \$200,000,000
15%	FL	July 15, 1992	U.S. \$150,000,000
10%	FM	March 18, 1988	U.S. \$200,000,000

Many of the series have annual sinking fund requirements. Total long-term debt maturity payments and sinking fund instalments of the long-term debt outstanding at March 31, 1983 are as follows:

Year Ending March 31	Principal Amount of Maturities	Estimated Funds Accumulated to Maturity Date in Sinking Funds	Cash Requirements		
			Net Debt Maturities	Sinking Funds	Total
(in millions)					
1984	\$ 170	\$ 26	\$ 144	\$ 87	\$ 231
1985	292	19	273	91	364
1986	116	44	72	85	157
1987	242	97	145	92	237
1988	417	85	332	88	420
	1,237	271	966	443	1,409
1989-1993	1,684	721	963	369	1,332
1994-1998	900	618	282	292	574
1999-2003	1,221	1,221	—	212	212
2004-2008	1,500	1,500	—	51	51
2009-	1,107	1,107	—	3	3
	\$7,649	\$5,438	\$2,211	\$1,370	\$3,581

Net debt maturities represent the principal amount of maturities minus estimated sinking funds at maturity, based on assumed earnings of 11% on existing sinking fund investments and future sinking fund instalments, and estimated discounts on anticipated purchases of bonds subject to annual mandatory redemption.

Funds obtained from the Canada Pension Plan Investment Fund by B.C. Hydro contain provisions which would permit the Minister of Finance for Canada to call for redemption, in whole or in part, the bonds subject to certain restrictions. At March 31, 1983 issues of bonds outstanding obtained from the Canada Pension Plan Investment Fund amounted to \$855,000,000, net of sinking funds.

Note 7 Guarantee by Province of British Columbia:

The Province of British Columbia has unconditionally guaranteed the principal of and premium, if any, and interest on B.C. Hydro's long-term debt.

Note 8 Pension Plans:

Employees of B.C. Hydro are covered under contributory pension plans. It is B.C. Hydro's practice to obtain periodic actuarial valuations of the plans for purposes of determining annual pension costs and funding requirements. Current service costs are provided for and funded when incurred. Past service pension costs and accrued deficits arising from plan amendments, changes in actuarial assumptions and indexing supplements to existing pensioners are provided for and funded over periods and in amounts recommended by the actuary.

A preliminary actuarial report, dated May 4, 1983, prepared as of December 31, 1982 indicated an accrued actuarial deficit in the principal plan as of that date of approximately \$75,000,000. Of this deficit, B.C. Hydro is funding approximately \$45,000,000 by payments of \$3,061,000 per annum until 1999 and \$1,200,000 per annum until 1997. Funding of the balance will be arranged after receipt of the final actuarial report and the actuary's recommendation.

The total cost to B.C. Hydro in respect of pension plans, including its share of Canada Pension Plan costs, for the year ended March 31, 1983 was \$29,112,000 (1982 — \$34,584,000; 1981 — \$21,886,000), of which \$16,711,000 (1982 — \$19,436,000; 1981 — \$12,497,000) was charged to income and the balance capitalized and included in fixed assets.

Note 9 Interest:

Interest and other financing expenses for each of the three years in the three year period ended March 31, 1983 comprise the following:

	1983	1982	1981
	<i>(in thousands)</i>		
Interest on long-term debt	\$799,784	\$684,964	\$529,267
Amortization of discount and expense	4,960	3,761	2,868
Exchange adjustments on long-term debt	11,400	10,303	7,304
Other interest	1,612	2,026	3,197
	817,756	701,054	542,636
Less:			
Income from sinking fund investments held by Trustee	55,770	54,457	40,886
Income from temporary investments	65,899	96,709	23,141
Interest charged to construction ...	217,208	141,884	78,401
	338,877	293,050	142,428
	\$478,879	\$408,004	\$400,208

Note 10 Commitments and Contingencies:

Purchase commitments and contracts of B.C. Hydro for capital projects aggregated approximately \$490,000,000 at March 31, 1983.

The powerplant and concrete dam contractor on the Revelstoke Project has made claims that it had to incur substantial unanticipated costs. The contractor has submitted claims with respect to the work performed to December 25, 1982 to a maximum amount of \$108,313,557.

Also in February 1983, B.C. Hydro received from the earthfill dam contractor on the Revelstoke Project, a submission claiming reimbursement to completion of the work in the amount of \$15,295,284 which is presently under review.

It is expected that B.C. Hydro will deny liability for the substantial part of all the claims made. Should any amount be paid by B.C. Hydro as a result of the claims, it will be capitalized as part of construction costs and included in fixed assets.

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Note 11 Segment Information:

B.C. Hydro is engaged in the operation of three principal services: generation, transmission and distribution of electricity; distribution of gas; and provision of a railway freight service.

Most expenses are directly attributable to specific segments. Common expenses are allocated among the segments using appropriate bases established by regular review and analysis.

Domestic and other electric service revenues include sales of firm energy under approved export contracts in the amount of \$11,069,000 (1982 — \$11,212,000; 1981 — \$11,758,000). Export surplus expenses include only direct costs, namely wheeling charges and water rentals.

Identifiable assets are those assets that are used in each segment's operations. Corporate assets are principally temporary investments and unamortized discount and expense on long-term debt.

					Electric	Gas						Rail			Sundry			Combined			
Domestic and Other					Export Surplus	Total Electric															
Year ended March 31 (in millions)	1983	1982	1981	1983	1982	1981	1983	1982	1981	1983	1982	1981	1983	1982	1981	1983	1982	1981	1983	1982	1981
Revenues	\$1,075	\$891	\$819	\$97	\$233	\$63	\$1,172	\$1,124	\$ 882	\$332	\$316	\$185	\$22	\$27	\$25	\$ 2	\$ 6	\$ 5	\$1,528	\$1,473	\$1,097
Expenses:																					
Salaries, wages and employee benefits	164	153	129	—	—	—	164	153	129	35	32	26	13	12	11	—	—	—	212	197	166
Gas purchased for resale	—	—	—	—	—	—	—	—	—	233	219	113	—	—	—	—	—	—	233	219	113
Materials and services	84	80	65	4	7	1	88	87	66	7	10	7	5	6	6	—	—	—	100	103	79
Grants, school taxes and water rentals	230	145	84	14	30	—	244	175	84	8	7	5	2	1	1	—	—	—	254	183	90
Depreciation	159	140	125	—	—	—	159	140	125	12	11	9	2	2	2	—	—	—	173	153	136
Total expenses	637	518	403	18	37	1	655	555	404	295	279	160	22	21	20	—	—	—	972	855	584
Operating income before interest	438	373	416	79	196	62	517	569	478	37	37	25	—	6	5	2	6	5	556	618	513
Interest (Note 9)	441	377	373	—	—	—	441	377	373	34	27	24	3	3	2	1	1	1	479	408	400
Operating income (loss)	(3)	(4)	43	79	196	62	76	192	105	3	10	1	(3)	3	3	1	5	4	77	210	113
Rate stabilization	60	—	—	(79)	(90)	—	(19)	(90)	—	—	—	—	—	—	—	—	—	—	(19)	(90)	—
Income (loss) before extraordinary item	\$ 57	\$ (4)	\$ 43	\$—	\$106	\$62	\$ 57	\$ 102	\$ 105	\$ 3	\$ 10	\$ 1	\$ (3)	\$ 3	\$ 3	\$ 1	\$ 5	\$ 4	\$ 58	\$ 120	\$ 113
Identifiable assets							\$8,062	\$7,292	\$6,449	\$450	\$410	\$344	\$50	\$52	\$51	\$14	\$14	\$14	\$8,576	\$7,768	\$6,858
Corporate assets																			334	619	54
Total assets																			\$8,910	\$8,387	\$6,912
Expenditures on fixed assets							\$ 997	\$ 990	\$ 695	\$ 37	\$ 60	\$ 44	\$ 1	\$ 2	\$ 1	\$ 2	\$ 1	\$—	\$1,037	\$1,053	\$ 740

Note 12 Extraordinary Item:

In July 1982, the Hat Creek Project was deferred indefinitely as a result of rising costs to the project and reduced rates of growth in projected electrical demand. The estimated write-off for project costs including the costs of project demobilization, amounting to \$77,000,000, has been shown as an extraordinary item in the statement of income and earnings employed in the business for the year ended March 31, 1983.

Note 13 Statement of Changes in Financial Position:

The statement of changes in financial position is presented defining funds as cash and temporary investments. The comparative statements for 1982 and 1981, originally presented on a working capital basis, have been restated to conform with the current year's presentation.

British Columbia Hydro and Power Authority

Financial Statistics *(in millions)*

years ended March 31

	1983	1982	1981	1980	1979	1978	1977	1976	1975	1974	1973
Sources of Revenue											
Electric	\$1,172	1,124	882	717	671	611	467	344	300	270	237
Gas	332	316	185	173	170	136	104	90	78	61	56
Rail freight	22	27	25	23	21	18	16	15	14	13	11
Sundry	2	6	5	3	1	1	1	2	—	—	—
Provincial Government special subsidy	—	—	—	—	—	—	33	33	—	—	—
Total	\$1,528	1,473	1,097	916	863	766	621	484	392	344	304
Disposition of Revenue											
Salaries, wages and employee benefits	\$ 212	197	166	144	132	126	115	104	79	60	51
Gas purchased for resale	233	219	113	102	101	80	59	47	45	35	22
Materials and services	100	103	79	74	64	59	49	44	34	35	26
Grants, school taxes and water rentals	254	183	90	71	66	53	45	39	28	25	22
Depreciation	173	153	136	119	107	97	78	70	64	60	56
Interest charged to operations	479	408	400	310	283	262	187	142	116	104	100
Total	1,451	1,263	984	820	753	677	533	446	366	319	277
Rate stabilization	19	90	—	—	—	—	—	—	—	—	—
	1,470	1,353	984	820	753	677	533	446	366	319	277
Loss on passenger transportation operations	—	—	—	56	61	61	50	36	21	10	5
	1,470	1,353	984	876	814	738	583	482	387	329	282
Loss on discontinuance of passenger transportation operations	—	—	—	38	—	—	—	—	—	—	—
Loss on deferral of Hat Creek Project	77	—	—	—	—	—	—	—	—	—	—
Employed in the business	(19)	120	113	2	49	28	38	2	5	15	22
Total	\$1,528	1,473	1,097	916	863	766	621	484	392	344	304
Fixed Assets											
Fixed assets in service, at cost	\$7,566	7,192	6,691	5,991	5,339	4,921	4,541	3,607	3,254	3,002	2,887
Accumulated depreciation	1,499	1,345	1,199	1,063	980	878	784	706	634	568	512
	6,067	5,847	5,492	4,928	4,359	4,043	3,757	2,901	2,620	2,434	2,375
Fixed asset expenditures	\$1,037	1,053	740	755	722	641	548	591	464	332	230
Contributions in aid of construction	65	37	32	25	19	22	22	20	12	9	10
Net fixed asset expenditures	\$ 972	1,016	708	730	703	619	526	571	452	323	220
Long-Term Debt											
— Net	\$6,832	6,425	5,324	5,176	4,739	4,337	3,605	2,990	2,515	2,055	1,862

On October 21, 1982, a ceremonial trip on the last train over the Kitsilano Trestle in Vancouver was taken by a number of retired Hydro railway employees, press, radio and television reporters and some members of Hydro management. The 96-year-old trestle has been removed because of the B.C. Place redevelopment at False Creek.



POOR

QUALITY

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